

2004

Considerations for dealing with significant organizational change

Donald Chrusciel
Iowa State University

Follow this and additional works at: <https://lib.dr.iastate.edu/rtd>



Part of the [Business Administration, Management, and Operations Commons](#), and the [Other Education Commons](#)

Recommended Citation

Chrusciel, Donald, "Considerations for dealing with significant organizational change " (2004). *Retrospective Theses and Dissertations*. 932.
<https://lib.dr.iastate.edu/rtd/932>

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

Considerations for dealing with significant organizational change

by

Donald Chrusciel

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Industrial Education and Technology

Program of Study Committee:
Dennis W. Field, Major Professor
John H. Schuh
Roger A. Smith
Troy J. Strader
Steven A. Freeman

Iowa State University
Ames, Iowa
2004

Copyright ©Donald Chrusciel, 2004, All rights reserved

UMI Number: 3145632

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI[®]

UMI Microform 3145632

Copyright 2004 by ProQuest Information and Learning Company.

All rights reserved. This microform edition is protected against unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

Graduate College
Iowa State University

This is to certify that the doctoral dissertation of

Donald Chrusciel

has met the dissertation requirements of Iowa State University

Signature was redacted for privacy.

Major Professor

Signature was redacted for privacy.

Committee Member

Signature was redacted for privacy.

Committee Member

Signature was redacted for privacy.

Committee Member

Signature was redacted for privacy.

Committee Member

TABLE OF CONTENTS

CHAPTER 1. GENERAL INTRODUCTION	1
Introduction – Statement of Objectives	1
Dissertation Organization	2
Literature Review and Theory	3
References	12
CHAPTER 2. SUCCESS FACTORS IN DEALING WITH SIGNIFICANT CHANGE IN AN ORGANIZATION	15
Abstract	15
Introduction	16
Change and Critical Success Factors	17
Proposition of New Factors	22
Research Methodology and Findings	26
Discussion	33
Limitations of This Research	34
Summary	34
References	36
CHAPTER 3. STAGES IN UTILIZING A CONSULTANT TO DEAL WITH SIGNIFICANT ORGANIZATIONAL CHANGE	41
Main Description	41
Introduction	42
Organization Significant Change	43
Methods	44
Change in Process	51
Findings	59
Limitations of This Research	61
Implications and Conclusions	62
References	64
CHAPTER 4. CONSULTANT AS TEACHER OR TEACHER AS CONSULTANT, WHAT IS THE RELATIONSHIP?	67
Abstract	67
Introduction	68
Organization-Significant Change	69
Significant Change Requires Curriculum	69
Methods	71
Methodology	71

Change in Process	76
Limitations of This Research	85
Implications and Conclusions	87
Appendices	89
References	93
 CHAPTER 5. FROM CRITICAL SUCCESS FACTORS INTO CRITERIA FOR PERFORMANCE EXCELLENCE – AN ORGANIZATIONAL CHANGE STRATEGY	 97
Abstract	97
Organizational Change Strategy	98
Change and Significant Change	99
Critical Success Factors to Criteria for Performance Excellence	101
Methodology and Findings	106
Limitations of This Research	109
Implications and Conclusions	109
Appendices	111
References	114
 CHAPTER 6. GENERAL CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH	 118
General Discussion	118
Overall Conclusions	120
Recommendations for Future Research	121
References	127

CHAPTER 1. GENERAL INTRODUCTION

Introduction - Statement of the Objectives

Although all organizations undergo and deal with constant operational flux, business enterprises need to become more proactive in dealing with significant change! This is important because it is through change that an organization hopes to maintain its competitive edge (Collins, 2002; Fiorina, 2002; Graetz, 2000; Qubein, 2001; Siegal, et al., 1996; Weber & Weber, 2001). The ability to deal with significant change is ongoing and gaining in importance as stated by Drucker (2003), “Major Changes – both the major threats and the major opportunities – will dominate the executive’s task in the next 10 to 15 years, maybe even longer.” (pg.3) Kotter (1996) echoes this, “By any objective measure, the amount of significant, often traumatic, change in organizations has grown tremendously over the past two decades.... To date, major change efforts have helped some organizations adapt significantly to shifting conditions, have improved the competitive standing of others, and have positioned a few for a far better future.” (pg. 3 & 4)

The question of how the enterprise attempts to deal with this type of change is often crucial to how well it succeeds. Prior research (Averweg & Erwin, 1999; Graetz, 2000; Guimaraes, Igbaria, & Lu, 1992; Hotek & White, 1999; Rothwell & Kazanas, 1998; Rouda & Kussy, 1995; Turban 1996; Palvia & Chervany, 1995; Underwood-Stephens & Cobb, 1999; Weber & Weber, 2001) suggests the need for critical factors to be addressed during periods of significant change in order for the organization to be successful.

This dissertation examines the dynamics of dealing with significant change through a series of interrelated research manuscripts, but each having its own particular theme. Using a

combination of both quantitative and qualitative research methodologies, the individual manuscripts provide insight to the main theme of dealing with significant change.

Dissertation Organization

The first manuscript in this series examines a specific case study involving significant change: the successful implementation of a Decision Support System (DSS) within an organization in higher education. The success in dealing with this significant change is scrutinized and evaluated against identified critical factors. It is the findings of this research, the identification of two additional critical success factors (Flexible Curriculum and Personal Gain), which provide the impetus for further research.

The second and the third manuscripts in the series deal more specifically with the need for a flexible curriculum that was identified in the first research manuscript as a critical success factor. There are basically two ways an organization can attempt to educate itself. One way is to handle it internally, and the other is to seek outside help/expertise. A popular way of gaining outside help is to hire a consultant. Toward this end, the second paper provides background on the issues of significant change and curriculum and then focuses on the stages of establishing a consultant-client partnership to advance organizational learning. The third manuscript examines the consultant-client partnership more closely where under optimal conditions the interaction can be a successful teacher-learner partnership.

The last manuscript in this series addresses the need for a more comprehensive framework by which the organization can continue on its quest for excellence, going beyond a single transformation episode dealing with significant change. The need to consider an action plan is explored, and from this framework a recommendation is made to employ a recognized tool set such as the Baldrige Criteria for Performance Excellence. The schema

for the entire research dissertation, showing how the individual manuscripts fit together, is presented in Figure 1.

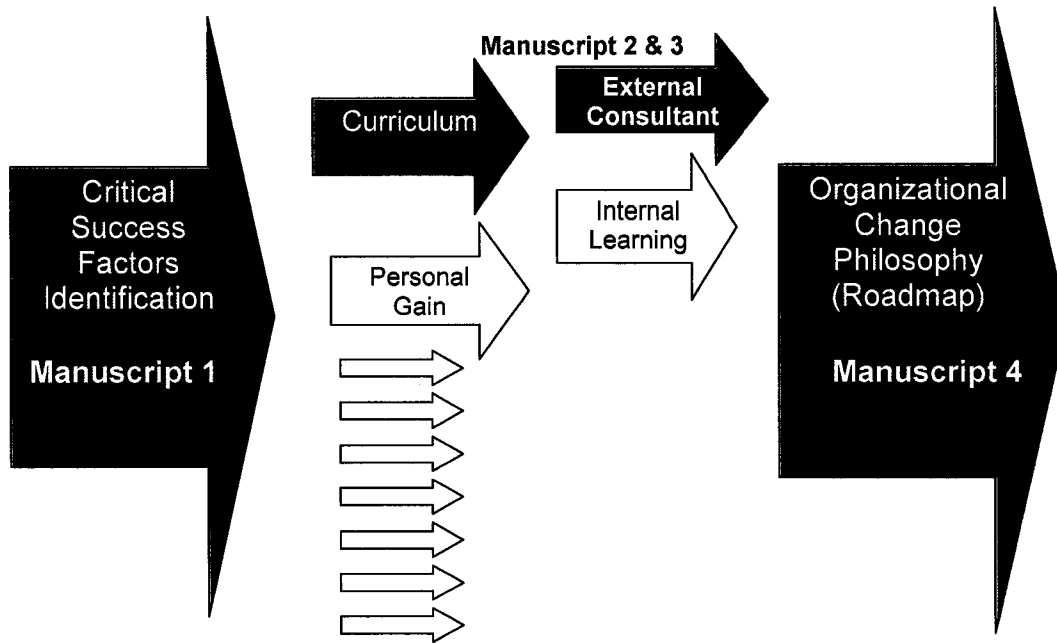


Figure 1. Dissertation Research Schema

Literature Review and Theory

It is commonplace for an organization to undergo some sort of change (Roach & Bednar, 1997; Romanelli & Tushman, 1994; Siegal, et al., 1996). Most of these are due to some variable, internal or external, that requires the enterprise to respond in order to stay productive and competitive. Change is happening constantly and in most cases it is absorbed by the organization by means of fine-tuning the tactical daily action plan (Roach & Bednar, 1997). However, as stated above, in their ongoing quest to be competitive, organizations are being exposed to more comprehensive change. Of importance is the significant change which an enterprise must cope with in order to improve competitive advantage and maximize

the gain from the transformation process. This becomes the main underlying theme of this research project. Since this project puts an emphasis on exploring how an organization deals with significant change, it is important to have a clear understanding of just what is significant change.

Significant change is defined as any change where there is impact on the enterprise due to some radical, financial, and/or organizational adjustment. It is seen as affecting the majority of the staff or having impact on the financial health of the operation. It can be referred to as strategic in nature. This change is also referred to as morphogenetic, meaning that it takes on the nature of creating new forms, and it is permanent and pervasive (Roach & Bednar, 1997). It can be considered frame-breaking, culture-changing, transforming, radical, revolutionary, etc. where one or all of the four components (people, tasks, technology, and structure) are at the impetus (Carr, 2000).

To assist organizations in dealing with significant change, research provides help by identifying success factors. Through the research of the single case study, the confirmation of these factors supports the generalization of the findings to look beyond a single change, such as the DSS implementation, to those involving a broader scope of issues. The findings from the research efforts provide the foundation to explore critical success factors which can be categorized into three groups: global significant change critical success factors (see Table 1), DSS implementation critical success factors (see Table 2), and additional (proposed) critical success factors (see Table 3).

Table 1. Global Significant Change Critical Success Factors
(Graetz, 2000; Hotek & White, 1999; Palvia & Chervany, 1995; Rothwell & Kazanas, 1998; Rouda & Kussy, 1995; Underwood-Stephens & Cobb, 1999; Weber P. and Weber J., 2001)

Factor Name	Importance	Definition
Planning and Analysis	Critical	Evaluation of the gap between where the organization is now and where it would like to be. Looking at all possible influencing variables. Important elements are: Management of this entire change process and the perception of fairness/justice in the process.
Assessment	Critical	Evaluation of the effectiveness by some means to provide feedback.
Comprehensive Communication	Critical	Communication the change message is important at all levels throughout the organization.
Perception of Organizational Readiness to Deal with Change	Critical	Staff perceptions of organizational readiness to deal with change serves to either undermine or facilitate a successful effort.

Table 2. Critical Success Factors – Decision Support Systems (DSS) Implementation
(Averweg & Erwin, 1999; Davenport, Harris, & Cantrell, 2004; Guimaraes, Igbaria, & Lu, 1992; Turban, 1996)

Factor Name	Importance	Definition
Top Management Support	Critical	Active and visible support from organization management, often having a champion for the application.
User Training of Application	Critical	A clear demonstration in how to use the application is warranted. User training was identified as important, but is very subjective in nature
Perceived Utility	Critical	Belief by the users of the DSS that it is important and has impact on the success.
Staff Critical Mass	Critical	Minimum number of key organizational staff necessary to move the change initiative forward. From talk to action.

Table 2. (continued)

Factor Name	Importance	Definition
User Involvement	Important	Ownership of the DSS is in the hands of the end-users.
Information Source	Important	This factor identifies the importance of having readily available and current data.
Level of Managerial Activity Being Supported	Important	Where in the organizational structure will the DSS prove to be the most helpful and ultimately be used? What level of decisions is the DSS dealing with?
User Information Satisfaction	Important	Satisfaction with the final product and its acceptability is viewed as being important.
Relative Use	Important	High level of use of the DSS is important.
Goal Realization	Important	Have the expectations for the DSS been met
Ability to Utilize the DSS	Important	Different than training, this factor looks at the overall ability of the end-user to utilize the DSS.
Use of a Change Initiative Crusader	Important	Individual, usually from the staff rank-and-file, who comes forward in support of the initiative.

Table 3. Additional (Proposed) Critical Success Factors

Factor Name	Importance	Definition
Development Curriculum & Appropriate Training Dealing Specifically with Change.	Critical	An outcome of appropriate planning and analysis is the development and use of prescribed yet flexible instruction plan (roadmap) based on contemporary ideas and theories by which the organization attempts to educate its staff about the important change issues dealing with both the technical and human aspects.
Perception of Personal Gain	Critical	Individual's perception of how their participation would provide any personal gain to themselves (mental and/or physical) by being associated with the change and/or the process.

It is the findings presented in Table 3, the identification of two additional critical success factors, which provides the interest for further research and exploration. In addition to the success factors, some sound organizational change theory has also been identified, and

is worthy of a brief discussion. These theories serve to complement the factors in attaining success.

Some key change transformation theory is utilized as a foundation to guide the research project. An organization's transformation can be seen as the S-curve (sigmoid-shaped) pattern of change transformation identified by Teece (1987) and later refined by Tushman (1996) (cited by Nadler & Nadler, 1998), which Blanchard and Waghorn (1997) refer to as the learning curve for an organization. Since the interest is to look at the organizational significant change transformation, one can view the curve of this transformation as a culmination of many smaller changes that fit into a single sigmoid pattern (see Figure 2).

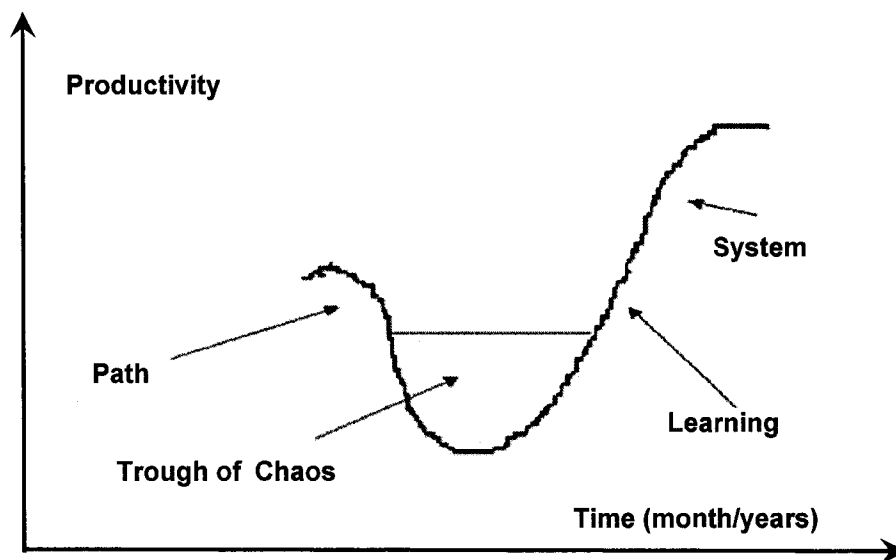


Figure 2. Organizational Change Transformation (Sigmoid-Curve)

Since the organization is expected to go through multiple change transformations, the change cycle becomes a series of these S-curves building upon each other (see Figure 3).

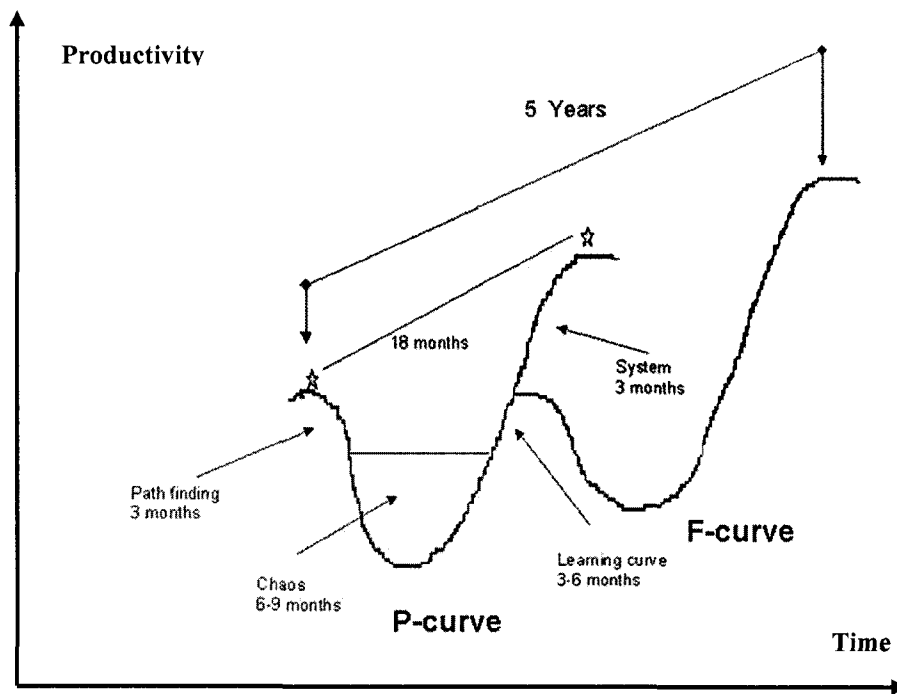


Figure 3. Organizational Change Cycle (Series of S-Curves)

Handy (2002) affirms the importance of the F-curve (future) building off the P-curve (present). In so doing, he also provides clarification on the timeframe where he states, “The only variable is the length of the curve, [and] the time it takes to reach the various points on the curve.” (pg. 29) It is from the examination of the organization’s perspective on how they are progressing through the “Trough of Chaos” (Scott & Jaffe, 1995) up the S-curve, that the potential success of a change within the organization can be evaluated (see Figure 4).

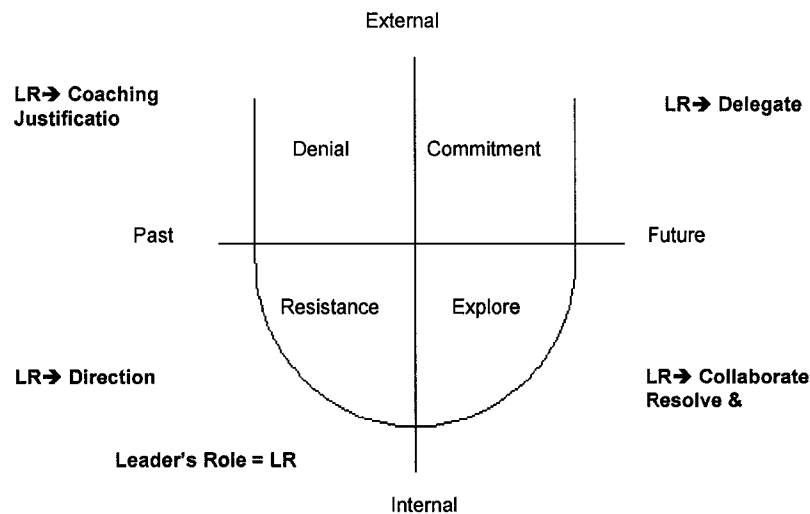


Figure 4. Trough of Chaos (Scott and Jaffe, 1995)

Even with this identification there remains the need for some type of methodology that the organization must adopt as a change philosophy in order to successfully traverse the P-curve and prepare for the F-curve.

Another complementing model as defined by Siegal et al. (1996) and Palvia and Chervany (1995) provides clarification on Lewin's fundamental description of change transformation within an organization by going through three phases: unfreezing, moving, and refreezing. The first phase of "unfreezing" is the recognition by the organization of the opportunities that can be gained from the change and beginning to let go of the status quo. This is followed by the "moving" phase, which involves the actual aspects of development whereby the organization attempts to distill and implement the desired change, and finally the "refreezing" phase, which attempts to support and reinforce the change being incorporated within the enterprise. These phases can be superimposed on the S-curve (sigmoid-shaped) pattern of change identified above as the learning curve for an organization (see Figure 5).

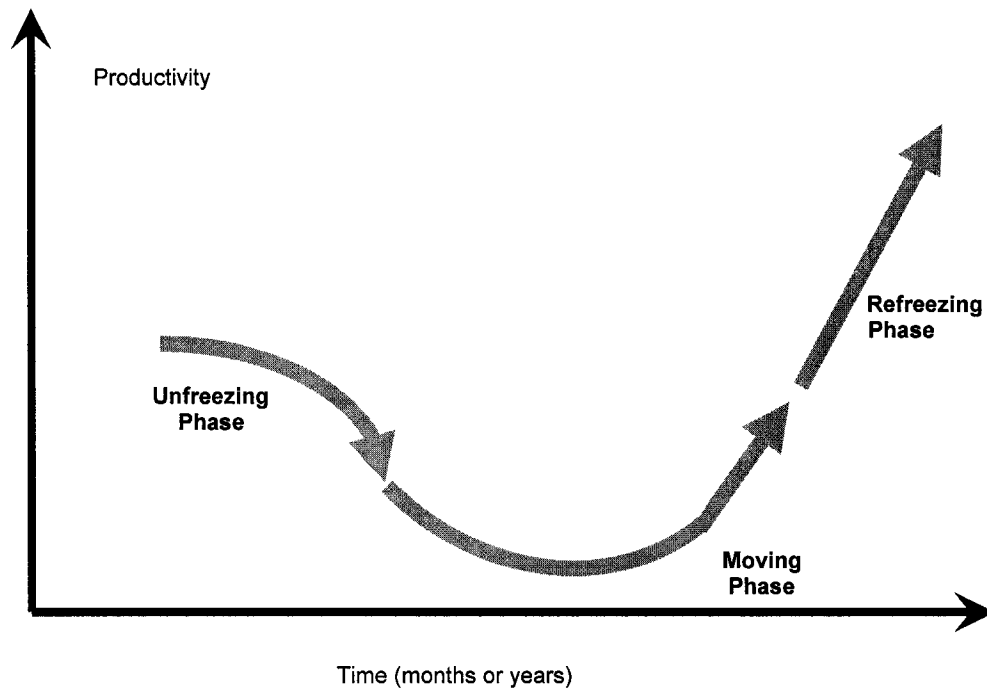


Figure 5. Transformation Phases Dealing with the Significant Change Cycle Superimposed on the Change Transformation S-Curve

Although change transformation may suggest confrontation which gives rise to, among other things, potential tensions, negations, and oppositions, critical theory suggests that not only does one opposing force need not necessarily always give in, but that there are many possibilities of a win-win scenario (Carr, 2000). A spark of change can also give way to another change, not necessarily predictable, which in turn starts a chain reaction leading into a reciprocating cycle feeding on itself (Roach & Bednar, 1997).

From this, the question seems to be whether the enterprise leadership could have a positive influence on the initial spark and guide the process with appropriate education, in the form of a prescribed curriculum. If so, the chain reaction could then be focused in a positive way in dealing with the change transformation. In essence, the goal of the change transformation is to challenge basic assumptions currently held in esteem by the

organization, in favor of some altered version that leadership has deemed worthy (Roach & Bednar, 1997). This may be influenced by an organization's flexible curriculum.

Research of significant change can take many approaches and could delve into any single success factor or any combination of those already identified. This is discussed in the first research manuscript. The second and third research manuscripts focus on just one factor (Curriculum). Utilizing the prescribed change transformation theory as a foundation, one of the proposed critical factors for a successful significant change transformation "Development Curriculum" is explored in-depth. The findings are provided with the intent not to dilute the significance of any one success factor or lessen the importance of implementing an overall organizational change philosophy as discussed in the last research manuscript. Instead, the interest is to provide the reader (researcher or practitioner) research based considerations for dealing with significant organizational change.

References

- Averweg, U., & Erwin, G. (1999). Critical success factors for implementation of decision support systems in South Africa. *Proceedings of the 32nd Hawaii International Conference on System Sciences*, IEEE, 1-10.
- Blanchard, K., & Waghorn, T. (1997). *Mission possible – becoming a world-class organization while there is still time*. New York: McGraw-Hill.
- Carr, A. (2000). Critical theory and the management of change in organizations. *Journal of Organizational Change Management*, 13(3), 1-11.
- Collins, D. (2002). Climbing Bridalveil Falls: Organization change, process and re-engineering. *Strategic Change*, 11(2), 81-93.
- Davenport, T., Harris, J., & Cantrell, S. (2004). Enterprise systems and ongoing process change. *Business Process Management*, 10(1), 16-26.
- Drucker, P. (2003, May). Future of management, start seeing change as a golden opportunity. *Executive Excellence*. Provo, UT: Executive Excellence Publishing, 20(5), 3.
- Fiorina, C. (2002, June). Mastering change. *Executive Excellence*. Provo, UT: Executive Excellence Publishing, 19(6), 10-11.
- Graetz, F. (2000). Strategic change leadership. *Management Decision*, 38(8), 550-564.
- Guimaraes, T., Igbaria, M., & Lu, M. (1992, March/April). The determinants of DSS success: an integrated model. *Decision Sciences*, 409-429.
- Handy, C. (2002, Spring). Elephants and fleas: Is your organization prepared for change? *Leader to Leader*, 22, 29-33.
- Hotek, D., & White, M. (1999, Winter/Spring). An overview of performance technology. *The Journal of Technology Studies*, XXV(1), 43-50.

- Kotter, J. (1996). *Leading change*. Boston, MA: Harvard Business School Press.
- Nadler, D., & Nadler, M. (1998). *Champions of change*. San Francisco, CA: Jossey-Bass
Reference to: "S-Shaped Sigmoid Curve" (pg. 45-50).
- Teece, D.J. (1987). *Competitive Challenge*. New York: Harper Collins.
- Tushman, M.L., Anderson, P.C., and O'Reilly, C. (1996). *Managing Strategic Innovation and Change*. New York: Oxford University Press.
- Palvia, S., & Chervany, N. (1995). An experimental investigation of factors influencing predicted success in DSS implementation. *Information & Management*, 29, 43-53.
- Qubein, N. (2001, January). Embracing change. *Executive Excellence*. Provo, UT: Executive Excellence Publishing, 18(1), 17.
- Roach, D., & Bednar, D. (1997, June). The theory of logical types: a tool for understanding levels and types of change in organizations. *Human Relations*, 50, 671-99.
- Romanelli, E., & Tushman, M. (1994). Organizational transformation as punctuated equilibrium: an empirical test. *Academy of Management Journal*, 37(5), 1141-1166.
- Rothwell, W., & Kazanas, H. (1998). *Mastering the instructional design process: A systematic approach* (2nd ed.), San Francisco: Jossey-Bass Publishers.
- Rouda, R., & Kusy, M. (1995). Development of human resources – part 2: Needs assessment the first step. *Technical Association of the Pulp and Paper Industry*, Retrieved March 8, 2003 from the World Wide Web: http://alumni.caltech.edu/~rouda/T2_NA.html
- Scott, C., & Jaffe, D. (1995). *Managing change at work*. Menlo Park, CA: Crisp Publications.
- Siegal, W., Church, A., Javitch, M., Wacławski, J., Burd, S., Bazigos, M., Yang, T., Anderson-Rudolph, K., & Burke, W. (1996). Understanding the management of

- change, an overview of managers' perspectives and assumptions in the 1990s. *Journal of Organizational Change Management*, 9(6), 1-20.
- Turban, E. (1996). Implementing decision support systems: A survey. *1996 IEEE International Conference on Systems, Man, and Cybernetics*, 4, 2540-2545.
- Underwood-Stephens, C., & Cobb A. (1999). A Habermasian approach to justice in organizational change synthesizing the technical and philosophical perspectives. *Journal of Organizational Change Management*, 12(1), 1-11.
- Weber, P., & Weber, J. (2001). Changes in employee perceptions during organizational change. *Leadership & Organizational Development Journal*, 22(6), 291-300.

CHAPTER 2. SUCCESS FACTORS IN DEALING WITH SIGNIFICANT CHANGE IN AN ORGANIZATION

A manuscript has been submitted to the Business Process Management Journal¹

Don Chrusciel^{2,3} and Dennis W. Field Ph.D.²

Abstract

Business enterprises are being challenged to confront significant change! As organizations attempt to deal with significant change, research has identified critical factors that need to be present in order to optimize success. By utilizing a combined quantitative and qualitative research methodology and focusing on a single case study dealing with a Decision Support System (significant change), this paper examines those factors. It is through this examination that not only are the critical success factors of previous research confirmed, but two additional critical factors are revealed: 1) Flexible Curriculum- the need for a comprehensive action plan having a prescribed curriculum by which the organization can formulate an educational change plan, and 2) Perception of Personal Gain- the need to present a clear understanding addressing the aspirations and individual personal goals of those who are both involved and affected by the significant change.

¹ Awaiting results from journal review process

² Graduate student and Assistant Professor, respectively Department of IEDT, Iowa State University

³ Primary researcher and author

1. Introduction

While all organizations undergo constant change, business enterprises need to become more proactive in dealing with this constant flux! The question of how the enterprise attempts to deal with significant change is often crucial to how well it succeeds (Collins, 2002; Fiorina, 2002). Previous research (Weber P. and Weber J. 2001; Graetz 2000; Averweg & Erwin 1999; Hotek & White 1999; Underwood-Stephens & Cobb 1999; Rothwell & Kazanas 1998; Turban 1996; Palvia & Chervany 1995; Rouda & Kussy 1995; Guimaraes, Igbaria, & Lu 1992) suggests the need for critical factors to be addressed during periods of significant change in order for the organization to be successful. Through the examination of a specific case involving significant change, the successful implementation of a Decision Support System (DSS) within an organization in higher education, the process of dealing with a significant change is scrutinized and evaluated against these critical factors.

The research methodology employed to examine the DSS implementation (business unit in Higher Education) combines both quantitative and qualitative analysis. Not only are the critical success factors identified in the literature present and confirmed, but two additional factors may merit recognition. These two additional success factors are: 1) the need for curriculum development and appropriate training by which the organization can formulate an education plan to deal with change, and 2) the need for clear communication addressing the personal gains of those individuals who are both involved and affected by the significant change process. Complementing the change curriculum is the need for ongoing assessment with feedback. This aids in determining whether the change itself was good or bad for the organization, and whether the curriculum of introducing the change needs further

refinement. It provides a venue to not only adjust the curriculum, but also confirm ongoing buy-in by staff.

Although the focus was on a DSS implementation within a specific organization, there are implications that these factors, including the two proposed, may have implications beyond the specific significant change and provide insight in how to deal with more generalized and broader organizational “Significant Change.”

2. Change and Critical Success Factors

2.1 Significant Change Defined

In this day and age it is commonplace for an organization to be constantly undergoing some sort of change (Siegal, et al. 1996; Roach & Bednar 1997; Romanelli & Tushman 1994). Most of these are due to some variable, internal or external, that requires the enterprise to respond in order to stay productive and competitive. Change is happening constantly and in most cases it is absorbed by the organization by means of fine-tuning the tactical daily action plan (Roach & Bednar 1997). However, in the ongoing quest to be competitive, organizations are being exposed to more comprehensive change. Of importance is the significant change with which an enterprise must cope in order to improve competitive advantage and maximize the gain from the transformation process.

Significant change is defined as any change where there is impact on the enterprise due to some radical financial, and/or organizational adjustment. It is seen as affecting the majority of the staff or having impact on the financial health of the operation. It can be referred to as strategic in nature. Such change is also referred to as morphogenesis, meaning that it takes on the nature of creating new forms, and it is permanent and pervasive (Roach & Bednar 1997). It can be considered frame-breaking, culture-changing, transforming, radical,

revolutionary etc. where one or all of the four components (people, tasks, technology, and structure) are at the impetus (Carr 2000).

Significant change can be further defined as a disruption of the current work patterns with interest to replace undesired activities (Palvia & Chervany 1995). From their research, Palvia and Chervany (1995) provide the three phases of change within an organization: unfreezing, moving, and refreezing. It is from these phases that one can examine the potential success of a change within the organization. Unfreezing is the recognition of potential opportunities that can be gained from the change. This is followed by the moving phase which involves the actual development aspects, and finally the refreezing phase which attempts to support and reinforce the change as a proper fit within the enterprise (Palvia & Chervany 1995).

Although change transformation may suggest confrontation, which gives rise to, among other things, potential tensions, negations, and oppositions, critical theory suggests that not only does one opposing force need not necessarily always give in, but that there are many possibilities of a win-win scenario (Carr 2000). The spark of change can also give way to another change, not necessarily predictable, which in turn starts a chain reaction leading into a reciprocating cycle feeding on itself (Roach & Bednar 1997).

In essence, the goal of the change transformation is to alter basic assumptions currently held in esteem by the organization, in favor of some altered version that leadership has deemed worthy (Roach & Bednar 1997). This is influenced by an organization's ability to weather the transformation process based on identified critical success factors.

2.2 Critical Success Factors

Success factors for implementing a significant change have been identified through a literature review (see Table I and Table II). The identification of these key attributes allows the investigation to look beyond a single change such as the DSS implementation to those involving a broader scope of issues.

Factor Name	Importance	Definition
Planning and Analysis	Critical	Evaluation of the gap between where the organization is now and where it would like to be. Looking at all possible influencing variables. Important elements are: Management of this entire change process and the perception of fairness/justice in the process.
Assessment	Critical	Evaluation of the effectiveness by some means to provide feedback.
Comprehensive Communication	Critical	Communicating the change message is important at all levels throughout the organization.
Perception of Organizational Readiness to Deal with Change	Critical	Staff perceptions of organizational readiness to deal with change serve to either undermine or facilitate a successful effort.

Table I. Global Significant Change Critical Success Factors

[Weber and Weber, 2001; Graetz, 2000; Hotek & White, 1999; Underwood-Stephens & Cobb, 1999; Rothwell & Kazanas, 1998; Palvia & Chervany, 1995; Rouda & Kussy, 1995]

Factor Name	Importance	Definition
Top Management Support	Critical	Active and visible support from organization management, often having a champion for the application.
User Training of Application	Critical	A clear demonstration in how to use the application is warranted. User training was identified as important, but is very subjective in nature
Perceived Utility	Critical	Belief by the users of the DSS that it is important and has impact on the success.
Staff Critical Mass	Critical	Minimum number of key organizational staff necessary to move the change initiative forward. From talk to action.
User Involvement	Important	Ownership of the DSS is in the hands of the end-users.
Information Source	Important	This factor identifies the importance of having readily available and current data.
Level of Managerial Activity Being Supported	Important	Where in the organizational structure will the DSS prove to be the most helpful and ultimately be used? What level of decisions is the DSS dealing with?
User Information Satisfaction	Important	Satisfaction with the final product and its acceptability is viewed as being important.
Relative Use	Important	High level of use of the DSS is important.
Goal Realization	Important	Have the expectations for the DSS been met
Ability to Utilize the DSS	Important	Different than training, this factor looks at the overall ability of the end-user to utilize the DSS.
Crusader	Important	Individual, usually from the staff rank-and-file, who comes forward in support of the initiative.

Table II. Critical Success Factors – Decision Support Systems (DSS) Implementation [Davenport, Harris, & Cantrell, 2004; Averweg & Erwin, 1999; Turban, 1996; Guimaraes, Igbaria, & Lu, 1992]

Ongoing comprehensive communication (Graetz 2000; Klein 1996), and the need to address the staff person's perception of the organization's ability to deal with change (Weber P. & Weber J. 2001) are also recognized as important factors for ongoing change transformation success.

In addition to the success factors, some sound organizational practices have also been identified, and are worthy of a brief discussion. These practices serve to complement the factors in attaining success.

Organizations must continue to look at lessons learned for ways to improve decision-making based on organizational knowledge (Kotnour, Orr, Spaulding, & Guidi 1997; Ford 1996). Organizational knowledge ultimately enhances the enterprise's ability to improve its performance. Performance analysis aids in identifying whether achievement of planned results and objectives has been reached (Hotek & White 1999; Rothwell & Kazanas 1998). The significant realization is that assessment feeds what can be considered a dynamic process for improvement (Gelina 1994; Householder & Boser 1991). A system, whether experiencing significant change or not, needs constant monitoring with feedback in order to judge whether things are on track (Sastry 1997; Ford 1996; Hansen 1995; Wilson et al. 1993).

2.3 Decision Support System – Success Factors

From the implementation of a DSS (Decision Support System), a core of critical success factors can be identified. Literature (Davenport, Harris, & Cantrell, 2004; Graetz 2000; Averweg & Erwin 1999; Ngai & Cheng 1999; Turban 1996; Mentzas 1996; Palvia & Chervany 1995; Kivijärvi & Zmud 1993; Guimaraes et al. 1992) suggests that the attributes of these factors presumably apply to any significant change process. Averweg and Erwin (1999) discuss guidelines for a successful implementation of a DSS using “Critical Success Factors” (CSF), many of which overlap the findings of other researchers. These critical success factors are listed in Table II.

Some success factors can focus on the phases of the implementation or on the model to introduce the DSS/significant change to an organization. From the same research, measures are suggested to gauge a factor's value which can include the following: algorithm effectiveness, complexity of decision, human behavioral factors, capacity to produce expected results, expected relative use, overall satisfaction, decision-making satisfaction, perceived utility, perceived benefits, satisfaction with presentation of information, time frame to implement, risks versus benefits, available options and the achievement of the planned goals.

Aspects of these measures are utilized to confirm the presence of the critical factors in the change process. However, since the emphasis is on the actual factors, the metrics for measuring the extent of each factor is left for further research outside of this project.

3. Proposition of New Factors

3.1 Flexible Curriculum

Prior to implementing any change, those at the forefront of the initiative should identify potential alliances and hurdles that may need to be dealt with in order to assess the potential for success (Werr, Stjernberg, & Docherty 1997; Carr 2000; Brager & Holloway 1992; Householder & Boser 1991). Thus the need for analysis exists whereby the gap between where the organization is now and where it could be due to the significant change is evaluated, an approach plotted, and critical tasks identified (Roach & Bednar 1997; Sastry 1997; Rouda & Kussy 1995; Wilson et al. 1993). Observations of the transformation need to be anchored in a common observation terminology, i.e. a landmark needs to be recognized by those expecting to monitor the progress. From this logic a plan to deal with change can be

proposed. A plan is a way to minimize the risks associated with making a decision (Huning 1999). Thus, having a plan makes good sense.

As an enterprise looks to make a significant change within, it is important to have a plan of action which takes into account the definition of the issues and available resources, as well as the need to provide appropriate instruction to implement the change (Hotek & White 1999). Existing training and education need to be replaced with more pertinent education focusing on the new issues (Kotter 1995). At the heart of planning are the questions of where we are now, where we are going, what are the environmental conditions of our situation, and what is our proposed plan of action to traverse the identified gap (Hotek & White 1999; Wicklein 1993). The organization must address its skill and ability deficits by examining factors that influence instruction. If the change involves skill-based activities, then the curriculum should focus on training; if the change is knowledge-based, then the curriculum needs to be considered educational (Wilson, Jonassen, & Cole 1993). The intent of the enterprise is to not only incorporate the specified change, but to do so with minimal disruption, and more importantly to achieve the desired outcomes through an efficient and cost effective implementation. In general, if goals are achieved, the process used to get there was effective (Householder & Boser 1991).

An appropriate curriculum draws on theory to produce a non-theoretical, operational guide for making decisions (Hansen 1995). It is important that the instructor be seen as a facilitator, using a curriculum – a plan, whereby the learner realizes that the discovery of knowledge stems from his/her own effort. Preaching the message to the audience without the buy-in will certainly communicate the information, but it is questionable as to whether it will be taken to heart, and more importantly, acted upon. Thus the instruction needs to take into

account not only the orientations (learner-based) suggested by Mockford and Denton (1995), but also the theory (instruction-based) provide by Hansen (1995). Most important of all, besides linking back to a practical use in the work environment, it must provide the insight as to how the change will benefit each stakeholder who participates as well as address both the technical and the human elements upon which the change transformation touches (Bovey & Hede 2001).

Along with the investment of resources, the timeframe required to accomplish the entire process of introduction and assessment, needs to be considered and potentially incorporated into the curriculum (Tyler 1949). Complementing the new curriculum is the ongoing need to communicate the new vision inspiring the change transformation. The new education and training not only helps to provide new learning, but it also serves as an additional forum for required communication (Klein, 1996).

3.2 Personal Gain

Within any organization dealing with an identified process, there is a common humanistic theme that needs to be taken into consideration. That theme is fairness, at least the perception of fairness, to all involved. Fairness, otherwise referred to as justice within the enterprise, can affect the outcome of the change process (Underwood-Stephens & Cobb 1999). Underwood-Stephens and Cobb (1999) are quick to point out that there will always be the issues of fairness in any attempt to make a change in an organization, and that the interplay of opposing forces influence trust and loyalty. This can inspire or detract from organizational cohesion and cooperation. These factors in particular are recognized as being humanistic, psychological, and philosophical in nature. In essence, the goal becomes one of making the enterprise's change simultaneously both fair and effective (Underwood-Stephens

& Cobb 1999). These arguments provide additional support for the need to deal with individual personal goals. The proposed influence of an individual's self gain, as related to the significant change within the organization, bears consideration for not only the individual's change transformation, but also for the organization's comprehensive change management process. This trait(s) motivates a staff person to become part of the needed critical mass. And it is the benefit perceived by the crusader to become more than an early adopter, and take on the role to champion/promote the change initiative. Therefore, the humanistic psychological factor may play a more significant role in the overall success of the change process than previously given recognition.

From this research another critical factor, "personal gain" is identified and explored. The designation and identification of incentives known as personal gain are considered as an attribute to the change transformation in order to reinforce buy-in by all participants (Hotek & White 1999; Kotter 1995). Although perception of fairness has already been discussed, this critical success factor suggests the presence of a more personal humanistic and psychological factor. It stems from what Frankl (1984) describes as the basic concept for logotherapy (Logotherapy and Existential Analysis, the "Third Viennese School of Psychotherapy", was developed by Viktor Frankl and first published in 1938). It regards the search for meaning as the primary human motivation. Logotherapy and Existential Analysis have been internationally recognized for decades as an empirically supported humanistic school of psychotherapy, and are at the heart of an individual's search for meaning. Bovey and Hede (2001) set the foundation for the theory of personal gain by reporting that those who fall into the "Resistance" category need to be dealt with because of the major influence that this factor has on the success of the overall change process. The importance that they

attribute to this factor certainly merits consideration. However, the second factor proposed not only complements their findings, but goes beyond the resistance group and speaks to the need for personal gain of all users and stakeholders regardless of whether they are in the denial, resistance, exploration or commitment stage. It is on this basis that a methodology is proposed to not only confirm the existence and use of Critical Success Factors for significant change, but to also confirm the existence and importance of the two additional factors documented in Table III.

Factor Name	Importance	Definition
Development Curriculum & Appropriate Training Dealing Specifically with Change.	Critical	An outcome of appropriate planning and analysis is the development and use of prescribed yet flexible instruction plan (roadmap) based on contemporary ideas and theories by which the organization attempts to educate its staff about the important change issues dealing with both the technical and human aspects.
Perception of Personal Gain	Critical	Individual's perception of how their participation would provide any personal gain to themselves (mental and/or physical) by being associated with the change and/or the process.

Table III. Additional (Proposed) Critical Success Factors

4. Research - Methodology and Findings

The Facilities Planning and Management (FP&M) operations at Iowa State University (ISU) has recently gone through the implementation of its Computerized Facilities Management System (CFMS) called FAMIS (Facilities Administrative Management Information System). The FAMIS system captures vital daily operational activity and allows management the functionality to both monitor and analyze this information, to aid in making both tactical and strategic planning decisions. The process started in late 1997 with the

decision to explore an external vendor's product for the organization's aging and non-Y2K compliant legacy CFMS. FP&M began its preparation for implementation with a target date to "go live" in July 1999.

Examination of the implementation revealed the use of a process for planning, analysis, and some assessment over the many months of implementation dealing with preparation, training, and group discussions of the software application. The success of the system, implementation, full use, and commitment to move forward was marked with the removal of the remnants of the legacy system in March of 2000.

After a full year of utilization of the FAMIS system, the organization has had time to work out operational issues and establish the presence and need of this Decision Support System. To explore the use of Critical Success Factors more in depth within FP&M, the first step was to survey the staff who were employed at the time of implementation and now use the system. Most research in similar areas has used a structured interview. A self-administered questionnaire patterned after a typical structured interview question was judged to be the most effective way to collect data and also allowed the respondents the opportunity to invoke confidentiality if desired.

4.1 Quantitative Methodology and Findings

The population surveyed was the approximately 53 FP&M staff (senior staff, process owners) who use FAMIS as a decision-making aid. Given that the population under review is less than 100, a minimum purposeful sample of between 10 and 30 is considered practical, although 15 is recommended (Isaac & Michael 1995; McMillan & Schumacher 2001; Gelina 1994]. From the identified population, a random sample of twenty-one (21) (Using the sample size calculator from Answers Research, Inc.

<http://www.answersresearch.com/calculators/sample.htm>, a sample size of 21 from a population of 53 will provide a confidence level of $80\% \pm 11\%$.) were sent the survey instrument to assure a response rate of 15 to meet the minimum. The survey instrument included a series of thirty (30) questions based on the already identified critical success factors as well as the factors being proposed. The questions were grouped into two (2) sections, one dealing with organizational benefits and the other with personal benefits. The respondents were asked to evaluate each question on a Likert Scale from 1 = “Strongly Disagree” to 5 = “Strongly Agree.”

From the 100% return, the data were analyzed using descriptive statistics looking at the means, standard deviations, frequency distributions and the skew of the data plots. The first and foremost conclusion was the confirmation that the implementation of the DSS was a significant/major change to the organization and that the sentiments in the organization were that it was successful. The Critical Success Factors that were identified in Table I as being “Critical” and those listed in Table II and Table III were also evaluated using the survey instrument. Although not all of the “Important” Critical Success Factors listed in Table I and II were tested fully, accommodations were made to focus on most of them. In addition three questions, speculated to have no influence, were added to the questionnaire as an aid to confirm reliability of responses from the respondents. The expected “Strongly Disagree” on these three questions dealing with season of the year, trainer gender, and application name were confirmed. It was noted that fiscal year end (season of the year) could be an influence. In addition, Chronbach's alpha for the entire survey was 0.89. Therefore, the instrument was judged to be reliable.

Confirmation of the presence and importance of all “Critical Success Factors” identified in Table I were supported by the quantitative findings from the survey where all mean values are greater than “3.4.” The same conclusions were also made for all of the CSF stated in Table II except for “Critical Mass” and “Assessment.” The issue of critical mass was purposely left out because feedback from the pilot survey suggested that the respondents required more of an in-depth explanation of the concept than what was being provided. In the case of assessment, the importance of assessment to a successful implementation is called into question. Further investigation revealed the dilemma that the respondents may be reacting to the lack of visibility of any measure for assessment being used as opposed to the value of one being used and the findings not being shared

Findings from the results of the survey also seem to support the potential for the factors identified in Table III where the mean values are close to “3.4.” However, the argument could be presented that there may not be an overwhelmingly strong agreement for the two proposed CSF. Some of the data means for the corresponding survey questions are just as favorable as some of the other survey questions dealing with the success factors identified from the literature. These results would at least warrant consideration before drawing any final conclusions. Based on a closer examination of the frequency distributions, a review of the means for the personal gain for oneself and personal gain for someone else shows a tendency towards a neutral response for individual personal gain of the respondent, but a more recognizable tendency towards someone else gaining from the implementation. The skew and the frequency distributions confirm these findings. With regard to the need for curriculum development, all but one question have means that favor agreement. Further examination of the frequency histogram showed that the majority of the respondents were not

neutral. Thus, given that the question addresses whether there was opportunity for staff to become more familiarized with the organizational change process, the respondents did not answer whether there was need, but rather whether its presence was there or not.

Personal gain may be more difficult to identify within the organization because of the sensitivity of this particular issue. This may be further compounded by the environment and more so because of the researcher's involvement and relationship with the staff in the organization. The willingness of respondents to be upfront about their personal gain or that of others can easily be seen as a very sensitive issue, thus limiting feedback; a respondent may choose to supply socially desirable responses rather than honest information about something personal in nature (Bovey and Hede 2001).

Although there is not strong agreement for all of the critical success factors from the quantitative analysis, there is at least an overall general agreement for the need to address critical success factors for a successful Decision Support Systems implementation. The presence of the two proposed CSF were neither denied nor were they strongly confirmed based solely on the quantitative methodology. An immediate response could be that these may just be more elusive. The quantitative data did however, provide insight into what areas would be worthy of further investigation. The question still remains as to whether all the CSF now attributed to significant change can be inferred from those reviewed in this study. In an effort to gain further insight and triangulate the findings, a qualitative research approach was employed.

4.2 Qualitative Methodology and Findings

The approach focused on capturing the essence of the implementation from the volumes of written and recorded materials, and follow up clarification discussions with strategic staff. The case study methodology provides a plausible research framework to complement the results of the quantitative survey analysis (Glesne 1999; McCutcheon & Meredith 1993; Eisenhardt 1989; and Yin 1981). Glesne (1999) suggests that increased time spent by the researcher in the research arena will aid in overcoming the outsider effect and allow the respondents to be more frank with their feedback, thus enhancing the trustworthiness of the collected data. The single subject case study allows for a more narrowly focused investigation rather than a broad overview of multiple subjects. This approach is supported by Davenport, et al. (2004) who recommend that the best way to identify success factors may be to research a single entity for a significant time period. Researcher prejudice was also minimized by exercising judicious participation and observation along with the understanding that the researcher was not an influence at the start of the implementation process. From the qualitative investigation, detailed information was found supporting the importance of the critical success factors. These findings from utilizing the qualitative data single subject case study (McMillan & Schumacher 2001; McCutcheon & Meredith 1993) combined with utilizing the case study methodology of examining archived information, verbal reports, and observations (McMillan & Schumacher 2001; Glesne 1999; McCutcheon & Meredith 1993; Eisenhardt 1989; and Yin 1981) allow for the refinement, presentation, and confirmation of the two additional proposed critical success factors, 1) the need for a curriculum and 2) the need to satisfy the staff's personal goals.

The application of the case study methodology on a single subject serves to validate the questionnaire information and probe deeper into the organization. From the investigation it was discovered that the organization, whether they knew this or not, did indeed utilize some of the key critical success factors identified in Table I and Table II. It was now realized by some of the staff that they were not totally aware of the whole picture within the organization, and that their reactions to the change were based on the perception of how the change would affect their realm within the organization. Based on feedback through informal interviews with some staff, sentiments were that, in some units, the refreezing phase of the significant change was not given ample time to allow for overall commitment because unit change followed too quickly. It was also confirmed that the “fear of change” was indeed based on personal goals which took into account not only personal gain, but also the consideration of potential failure and the confidence to succeed. In essence, the security blanket of past practices was being threatened. Several staff interviewed expressed sentiments that their direct involvement in the DSS implementation posed a threat to not only their standing in the organizational unit, but also to their livelihood. Because the change was organization wide, those resisting the change were able to go outside their operating units to find support from comrades of similar sentiments, allowing them to commiserate about the negative aspects of the significant change transformation. In spite of pockets of dissatisfaction in some of the user groups, the leadership of the organization as a whole realized that they were in a better situation by employing the DSS. Implementation was assisted not only by the commitment to succeed by key individuals, but also by the establishment of a line-manager being identified as a workforce crusader for the new system.

The approach adopted by FP&M served to not only keep the multiple teams on track, but also aided in keeping all interested parties informed on the overall progress of the project.

The common theme among staff, both stakeholders and end-users, was that the dissatisfaction stemmed from two potentially critical areas that were not fully addressed: (1) the lack of an overall change management plan of action with a defined curriculum, and (2) a lack of clear-cut benefit to the individual stakeholder and end-user, addressing their need for individual goals of achievement prompting their buy-in. Although parallel to the implementation and all the companion processes, staff were encouraged to attend training opportunities dealing with continuous quality improvement (CQI), they perceived no link between this training and the specific significant change initiative that the organization had experienced, nor was there any attempt to relate the training back to any practical application in the work environment. Therefore, the linkage of training from these sessions back to the actual work environment was lacking, thus devaluing the potential gain from the effort.

5. Discussion

Although the implementation of FAMIS has been deemed a success, the organization could have made significant strides toward establishing an overall organizational change process. Future changes of similar magnitude, as evidenced by the lack of the enthusiasm for upgrades and enhancements, now require ongoing rehashing of issues thought to be resolved. The organization may have missed an opportunity to initially build a foundation for organizational change management, and must now devote resources toward not only building this process in retrospect, but doing damage control as well.

6. Limitations of This Research

Like Weber and Weber (2001) the environment of the study may pose some limitations that need to be considered when interpreting results based solely on the survey. The sample size, respondent biases, lack of a control group, and employee-employer relationships are a source of potential influence. Self-reporting on a questionnaire is subjective rather than objective. Recognizing these issues, the author attempts to address some of these by utilizing a complementing exploratory case study methodology. The role of the researcher having a dual function is viewed as an aid in performing the qualitative methodology. However, this duplicity, even though it may add to the trustworthiness of the feedback data can just as easily have lead the research astray. One's perspective and objectivity is constantly questioned, especially when dealing with personal and sensitive information from the respondents. When and where it was feasible, informational data was confirmed by at least one additional source either documentation on record or by a follow up discussion with another staff person. It is also recognized that although one could see that identified critical success factors were indeed present in the implementation of the DSS for the FP&M organization, caution may need to be exercised in extending these findings to an organization outside of the institution as well as outside of higher education. Finally, it is recognized that there was no effort to test the need for each CSF either individually or in multiple combinations to establish which are actually most vital.

7. Summary

In today's environment as an enterprise attempts to deal with significant (traumatic) change, there may be a formula for a successful implementation. To maximize the opportunity for success, it is recommended that the action plan start with a valid

understanding of change and the need for the enterprise to confront it. The ability to adapt to one's environment is evolutionary in nature and it is recommended that appropriate planning and analysis be conducted before taking action. There needs to be a solid plan based on learning and change theory, and models that provide the enterprise with a foundation upon which to build their very own framework specific to the individual enterprise. Supporting this framework is the need for a curriculum by which the enterprise attempts to engage staff in the change transformation process. This is viewed as a roadmap for learning by which all participants benefit from the process and the organization minimizes frustration and maximizes the potential gain. It is also a means for buy-in by all strategic stakeholders and end-users. This buy-in is based on the perception of fairness and individual self-gain, which in turn is based on the humanistic and psychological interests of those involved with the change. The final component of the process is assessment (with feedback) of not only the actual change, but of the process and the tools utilized to accomplish the action.

Organizations need to incorporate into their planning process a way to handle the inevitable "Significant Change." By having an action plan that addresses the critical factors for success, supported with a prescribed change process methodology and curriculum, the enterprise may not only have a successful transformation, but it may also become a more flexible organization willing to deal with change in the future.

Reference List

- Averweg, U.R., Erwin, G.J. (1999), "*Critical Success Factors for Implementation of Decision Support Systems in South Africa*", Proceedings of the 32nd Hawaii International Conference on System Sciences.
- Bovey W., Hede A. (2001), "*Resistance to Organizational Change: the Role of Cognitive and Affective Processes*", Leadership & Organization Development Journal, Vol. 22 No. 8, pp. 372-382.
- Brager, G., Holloway, S. (1992), "*Assessing Prospects for Organizational Change: The Uses of Force Field Analysis*", Administration in Social Work, Vol. 16 No. 3/4, pp. 15-28.
- Carr, A. (2000), "*Critical Theory and the Management of Change in Organizations*", Journal of Organizational Change Management, Vol. 13 No. 3, pp. 1-11.
- Collins, D. (2002), "*Climbing Bridalveil Falls: Organization Change, Process and Re-engineering*", Strategic Change, Vol. 11 No. 2, pp. 81-93.
- Davenport, T., Harris, J., Cantrell, S. (2004), "*Enterprise Systems and Ongoing Process Change*", Business Process Management, Vol. 10 No. 1, pp. 16-26.
- Eisenhardt, K.M. (1989), "*Building Theories from Case Study Research*", Academy of Management Review, Vol. 14 No. 4, pp. 532-550.
- Fiorina, C. (2002, June), "*Mastering Change*", Executive Excellence: Provo, UT Executive Excellence Publishing, Vol. 19 No. 6, pp.10-11.
- Ford, C. (1996), "*The Role of Creative Action in Organizational Learning and Change*", Journal of Organizational Change Management , Vol. 9 No. 1, pp. 54-62.
- Frankl, V. (1984), Man's Search For Meaning (Rev. ed.). New York: Washington Square Press Publication.

- Gelina, R. (1994), Continuous Quality Improvement. Ames, IA: Center for Continuous Quality Improvement.
- Glesne, C. (1999), Becoming Qualitative Researchers. New York: Addison Wesley Longman.
- Graetz, F. (2000), "*Strategic Change Leadership*", Management Decision, Vol. 38 No. 8, pp.550-564.
- Guimaraes, T., Igbaria, M., Lu, M. (1992), "*The Determinants of DSS Success: An Integrated Model*", Decision Sciences, March/April, pp. 409-429.
- Hansen, R. (1995), "*Five Principles for Guiding Curriculum Development Practice: The Case of Technological Teacher Education*", Journal of Industrial Teacher Education, Vol. 32 No. 2, pp. 1-17.
- Hotek, D., White, M. (1999), "*An Overview of Performance Technology*", The Journal of Technology Studies, Vol. XXV No.1, Winter/Spring, pp. 43-50.
- Householder, D., Boser, R. (1991), "*Assessing the Effectiveness of the Change to Technology Teacher Education*", Journal of Technology Education, Vol. 2 No. 2, Spring, pp. 1-17.
- Huning, A.(1999), "*Preferences and Value Assessments in Cases of Decision Under Risk*", Society for Philosophy & Technology, Vol. 4 No. 4, Summer, pp. 15-20.
- Isaac S., Michael, W. (1995), Handbook in Research and Evaluation. San Diego: Educational and Industrial Testing Services.
- Kivijärvi, H., Zmud, R. (1993), "*DSS Implementation Activities, Problem Domain Characteristics and DSS Success*", European Journal of Information Systems, Vol. 2 No. 3, pp. 159-168.

- Klein, S. (1996), "*A Management Communication Strategy for Change*", Journal of Organizational Change Management, Vol. 9 No. 2, pp. 32-46.
- Kotnour, T., Orr, C., Spaulding, J., Guidi, J. (1997), "*Determining the Benefit of Knowledge Management Activities*", 1997 International Conference on Systems, Man, and Cybernetics (IEEE), Vol. 1, pp. 94-99.
- Kotter, J. (1995), "*Leading Change: Why Transformational Efforts Fail*", Harvard Business Review, March/April, pp. 59-67.
- McCutcheon, D.M., Meredith, J.R. (1993), "*Conducting Case Study Research in Operations Management*", Journal of Operations Management, Vol. 11 No. 3, pp. 239-256.
- McMillan, J.H., Schumacher, A. (2001), Research in Education. New York: Addison, Wesley Longman.
- Mentzas, G. (1996), "*Team Coordination in Decision Support Projects*", European Journal of Operational Research, Vol. 89 No. 1, pp. 70-85.
- Mockford, C., Denton H. (1998), "*Assessment Modes, Learning Styles, and Design and Technology Project Work in Higher Education*", The Journal of Technology Studies, Vol. XXIV No .1, pp. 1-8.
- Ngai, E., Cheng, T.(1999), "*MSS4TQM – A Management Support System for Total Quality Management*", Transactions on Systems, Man and Cybernetics (IEEE), Vol. 29 No. 3, August, pp. 371-386.
- Palvia, S., Chervany, N. (1995), "*An Experimental Investigation of Factors Influencing Predicted Success in DSS Implementation*", Information & Management, Vol. 29 No. 1, pp. 43-53

- Roach, D., Bednar, D. (1997), "*The Theory of Logical Types: A Tool for Understanding Levels and Types of Change in Organizations*", Human Relations, Vol. 50 No. 6, June, pp.671-99.
- Romanelli, E., Tushman, M. (1994), "*Organizational Transformation as Punctuated Equilibrium: An Empirical Test*", Academy of Management Journal, Vol. 37 No. 5, pp. 1141-1166.
- Rothwell, W., Kazanas, H. (1998), Mastering The Instructional Design Process; A Systematic Approach (2nd ed.), San Francisco: Jossey-Bass Publishers.
- Rouda, R., Kusy, M. (1995), "*Development of Human Resources – Part 2: NEEDS ASSESSMENT the First Step*", Technical Association of the Pulp and Paper Industry, from http://alumni.caltech.edu/~rouda/T2_NA.html
- Sastry, M. (1997), "*Problems and Paradoxes in a Model of Punctuated Organizational Change*", Administrative Science Quarterly, Vol. 42 No. 2, June, pp.237-75.
- Siegal, W., Church, A., Javitch, M., Waclawski, J., Burd, S., Bazigos, M., Yang, T., Anderson-Rudolph, K., Burke, W. (1996), "*Understanding the Management of Change, An Overview of Managers' Perspectives and Assumptions in the 1990s*", Journal of Organizational Change Management, Vol. 9 No. 6, pp. 1-20.
- Turban, E. (1996), "*Implementing Decision Support Systems: A Survey*", 1996 IEEE International Conference on Systems, Man, and Cybernetics, Vol. 4, pp. 2540-2545.
- Tyler, R. (1949), Basic Principles of Curriculum and Instruction. Chicago and London: The University of Chicago Press.

- Underwood-Stephens, C., Cobb A. (1999), "*A Habermasian Approach to Justice in Organizational Change Synthesizing the Technical and Philosophical Perspectives*", Journal of Organizational Change Management, Vol. 12 No. 1, pp. 21-34.
- Weber, P., Weber, J.(2001), "*Changes in Employee Perceptions During Organizational Change*", Leadership & Organizational Development Journal, Vol. 22 No. 6, pp. 291-300.
- Werr, A., Stjernberg, T., Docherty, P. (1997), "*The Functions of Methods of Change in Management Consulting*", Journal of Organizational Change Management, Vol. 10 No. 4, pp. 1-16.
- Wicklein, R. (1993), "*Identifying Critical Issues and Problems in Technology Education using a Modified-Delphi Technique*", Journal of Technology Education, Vol. 5 No. 1, Fall, pp. 1-18.
- Wilson, B., Jonassen, D., Cole, P. (1993), Cognitive Approaches to Instructional Design. The ASTD handbook of instructional technology. New York: McGraw-Hill.
- Yin, R.K.(1981), "*The Case Study Crisis: Some Answers*", Administrative Science Quarterly, Vol. 26, pp. 58-65.

CHAPTER 3. STAGES IN UTILIZING A CONSULTANT TO DEAL WITH SIGNIFICANT ORGANIZATIONAL CHANGE

A paper accepted for publication in the International Journal of Knowledge, Culture
and Change Management¹

Don Chrusciel²

Main Description

It is realized that, as organizations look to deal with significant change in order to maintain a competitive advantage, the necessary learning to deal with this transformation can be gained by internal education and/or seeking external expertise. The focus of this paper is to explore the role of the external expert (consultant) and to affirm the benefits of using such expertise. Utilizing qualitative grounded theory research to examine two primary independent consultants, five (5) stages of consultant/client interaction are identified to establish the prerequisite partnership. These stages are in turn linked with existing change transformation theory to demonstrate credence. By partnering with a consultant, the organization can expect to go through the phases of the change transformation sooner and become productive faster if the stages for establishing the partnership are optimized.

¹ Awaiting publication in the International Journal of Knowledge, Culture and Change Management.

² Primary researcher, author, and graduate student

Introduction

Organizational leadership and staff struggle with ways to become more knowledgeable in regard to dealing with significant change. This is important because it is through change that an organization hopes to maintain its competitive edge (Collins, 2002; Fiorina, 2002; Qubein, 2001; Weber & Weber, 2001; Graetz, 2000; Siegal, Church, Javitch, Waclawski, Burd, Bazigos, Yang, Anderson-Rudolph, & Burke, 1996). As organizations look at ways to train and develop staff, this particular topic/subject has surfaced as needing attention (Chrusciel & Field, 2002). Fiorina (2002) expresses these sentiments, saying, “For those companies that successfully master change and keep on leading, the rewards are extraordinary” (p. 10).

There are basically two fundamental ways an organization can attempt to educate itself. One way is to deal with it internally, and the other is to seek outside help/expertise. A popular way of gaining outside help is to hire a consultant. Consultants usually are called in when the organization has the resources and feels that the expertise is not available internally, and/or the outside expert’s viewpoint will be accepted more readily than that of any internal expert. Given the interest to utilize a consultant, this research paper explores the important factors to consider when an organization secures the services of a consultant to optimize the interaction.

Toward this end, this paper provides background on the issues of significant change and curriculum, followed by the introduction of the research methods used. The remainder of the paper focuses on findings based on qualitative research in identifying key stages in contracting for a consultant’s services aligned with change transformation theory.

Organization-Significant Change

In today's environment, organizations are constantly undergoing some sort of change, a situation now considered commonplace (Roach & Bednar, 1997; Romanelli & Tushman, 1994; Siegal et al., 1996). Most of these are due to some variable, internal or external, that requires a response to stay productive and competitive. Even in nature, change is evolutionary and is recognized as a relative constant in fundamental realities as the course of history (Huning, 1999). The urgency to deal with organizational change is affirmed by Graetz (2000), who argues that, "Against a backdrop of increasing globalization ... few would dispute that the primary task of management today is the leadership of organizational change" (p. 550).

Significant change is described as any change that has an impact on the enterprise due to some radical organizational adjustment. It is seen as having impact on the financial health of the operation, and often is strategic in nature. This change also is considered to be morphogenic and is permanent and pervasive (Roach et al., 1997). It can be considered frame-breaking, culture-changing, transforming, radical, or revolutionary, where one or all of the four components (people, tasks, technology, and structure) are the impetus (Carr, 2000).

In this research paper the significant changes involved preparing the organization for the replacement of the chief executive officer (CEO), assisting an organization in dealing with proposed budget cuts, and dealing with the aftermath from implementing an organizational-wide decision support system (DSS).

Methods

Respondents

The primary respondents (consultants), “Matt” and “Brett,” are both independent consultants operating primarily out of a metropolitan community located in the Midwest region of the U.S. They typically service the surrounding communities within a 200-mile radius. The consultants’ clientele ranges from major out-of-state firms to small in-state operations for both. Their expertise range from human resource issues to change management. It is the change management expertise that prompted the choice of the consultants.

Both consultants have lived an actual significant change, given the circumstances that led to their becoming consultants. Thus, by involving both consultants the study contains the elements of dedicated individuals whose livelihood is based not only on skills to successfully provide the consulting services while promoting themselves, but also on their lived experience.

The selection of organizations to observe the client/consultant relationship was at the discretion of the respondent (consultant), taking into consideration the research interest, along with timing, availability, geographic location to minimize research costs, and permission to enter the work environment. In addition, findings from observations of several other consultants were included to support the overall findings, under similar conditions.

Methodology

The qualitative research design of the project uses grounded theory (Merriam, 2002; Strauss & Corbin, 1998), and focuses predominately on two consultants and their

clientele who are dealing with change. Data were collected through multiple qualitative observations and multiple interviews using a semi-structured, open-ended interview guide. The investigation focused on whether the external consultant who deals with the change-related topics actually can aid/benefit the organization in dealing with change transformations.

This included exploring the factors that a consultant can either bring or endorse to aid in organizational learning. In support of triangulating the data, the respondents reviewed the transcripts, and additional materials were collected and examined, such as advertisement flyers, organizational training documents, and consultant training materials.

Significant Change Transformation

Both Siegal et al. (1996) and Palvia and Chervany (1995) provide clarification on Lewin's (1952) fundamental description of change transformation within an organization by going through three phases: unfreezing, moving, and refreezing (cited by Siegal et al., 1996; Palvia & Chervany, 1995). The first phase of "unfreezing" is the recognition by the organization of the potential opportunities that can be gained from the change, thus beginning to let go of the status quo. This is followed by the "moving" phase, which involves the actual aspects of development whereby the organization attempts to develop and implement the desired change, and finally the "refreezing" phase, which attempts to support and reinforce the change being incorporated within the enterprise. These phases can be superimposed on the S-curve (sigmoid-shaped) pattern of change identified by Teece (1987) and later refined by Tushman (1996) (cited by Nadler & Nadler, 1998) which Blanchard and Waghorn (1997) refer to as the learning curve for an organization (see Figure 1).

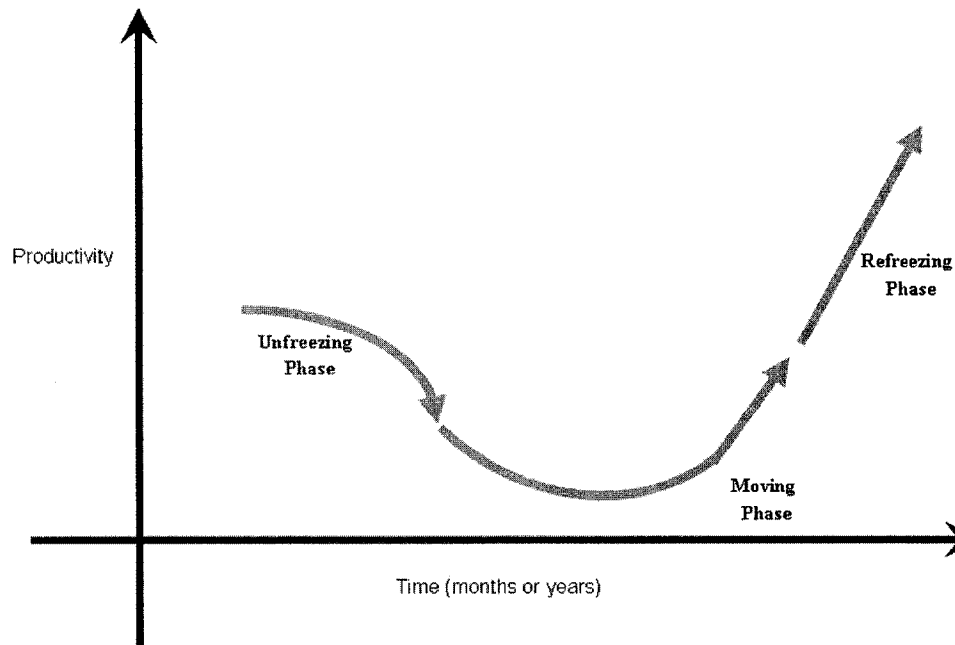


Figure 1. Transformation Phases – Dealing with Significant Change Cycle (Superimposed on “S-Shaped Curve”)

From these phases one can examine the potential success of a change within the organization. Even with the identification of the three transformation phases that Lewin provides, there remains the need for some type of methodology that the organization must adopt as a change philosophy in order to successfully traverse the P-curve (present) and prepare for the F-curve (future) (refer to Figure 2).

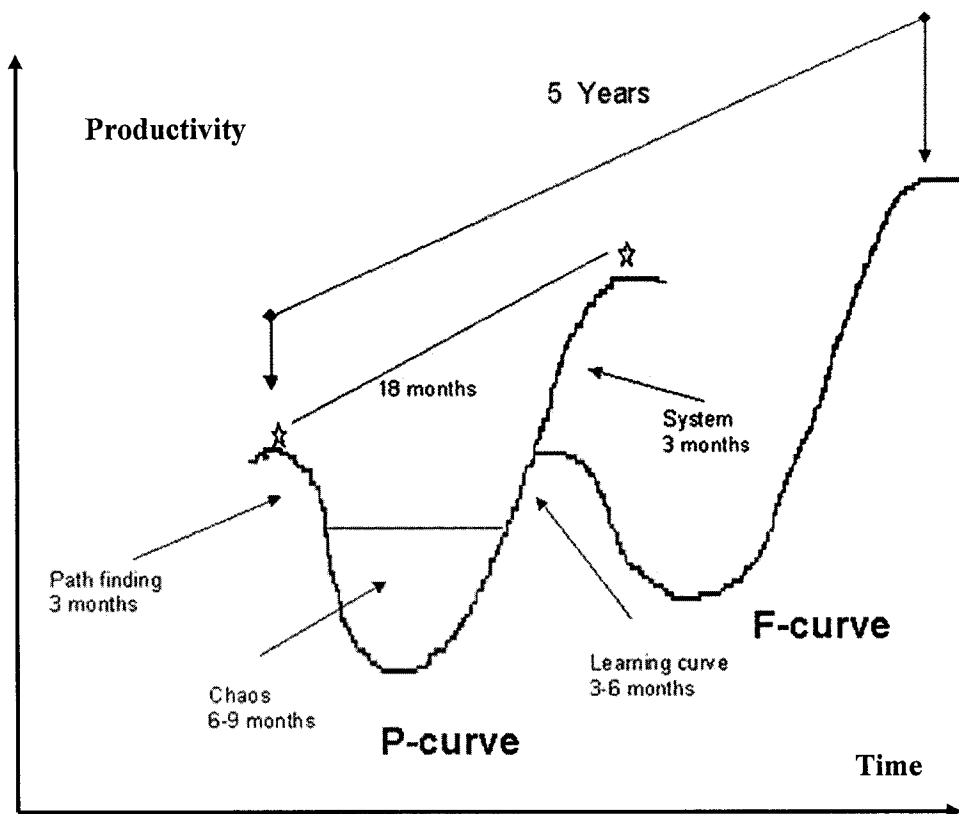
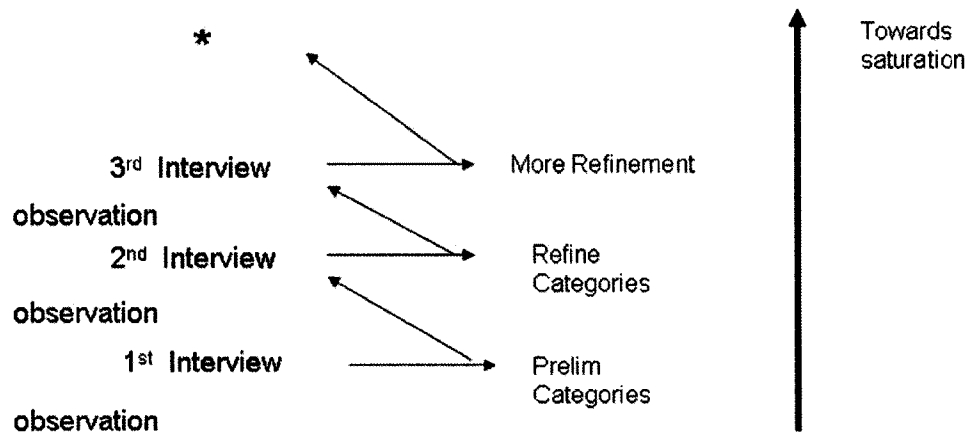


Figure 2. Organizational Change Cycle (Based on Blanchard & Waghorn, 1997)

Research Methodology

Utilizing the framework recommended by Strauss and Corbin (1998) for systematic grounded theory, data from interviews and observations were analyzed utilizing the three (3) levels of coding: open, axial, and selective (see Figure 3).



*** Saturation → having the same things come up, nothing new**

Figure 3 Grounded Theory -- explore interactions of the categories -- looking at the properties, the dimensions, ... (Bloom, 2003; M.J. Brotherson, 2003 Materials; Strauss and Corbin, 1998)

Open coding involves breaking the data down and doing the initial categorization. Axial coding takes these categories and refines them through comparisons, examining the relationships between categories. Finally, by using selective coding, not only are categories integrated and refined, they are examined for saturation as well. This means no new information or categories are needed and the data from all interviews and observations have been reduced to generate a core group of categories of explanation. Through this systematic approach the proposed theories are grounded in the analyzed data, and are believed to reflect the consultants' experiences as well as input from their client organizations.

Data and information were first collected from a single consultant and the affiliated clients as a means to initiate the investigation. After the first interview and

observation, the data were open coded to identify potential categories for further investigation. Data were then collected through an additional follow-up interview and observation while at the same time examining the developments being gleaned from the information utilizing the axial coding process. As the categories developed and further exploration took place through another interview and observation, additional consultants were interviewed and observed. The data gathered from all participants (consultants and clients) were then open coded for any unidentified categories, combined with existing findings and axial coded to identify any missed relationships between the categories. Finally, all pertinent data were analyzed via selective coding to gain assurance of saturation. Stemming from this analysis, fourteen broad categories were identified: respondent background, consultant's job experience, consultant's career position, career milestones, factors to consider in being a consultant, elements of success, experience pertinent to consulting, consulting experience, client gains, learning issues, consultant gains, consultant's approach, techniques, and influencing organizational change.

Through this systematic approach the fourteen broad categories were evaluated against change transformation theory and condensed into five proposed theories believed to reflect the consultants' experiences as well as input from their client organizations. After the formulation of the initial propositions, theoretical sampling was used to refine, solidify, and saturate these findings. This involved introducing additional findings from observations of additional consultants who are engaged with helping organizations deal with change transformation, one in particular who was helping an organization deal with the aftermath of implementing an organizational-wide decision support system. Based on the research findings and supported by literature review, if a consultant is to be effective, there are five (5) proposed stages that the successful consultant/client relationship experiences:

- 1) The Consultant Pitch – **Entry**
- 2) Decision Makers' **Buy-in**
- 3) Message to the Audience – **Credibility**
- 4) Message Delivery – **Learning**
- 5) **Follow Up – Evaluation** and Other Opportunities

As the organization begins the transformation unfreezing phase and goes into the moving phase, Bechtel and Squires (2001) remind us of the dip in productivity due to the change transformation. As the organization proceeds up the curve into the moving phase the organization's productivity begins to move upward as well, and, if the transformation is successful, new productivity will surpass the beginning level as the organization goes into the refreezing phase. If the consultant is engaged early in the transformation process, the effect should be positive in reducing not only productivity loss, but also reduce the time frame to progress through the three transformation phases along the Sigmoid Learning Curve (see Figure 4 for an explanatory graphic).

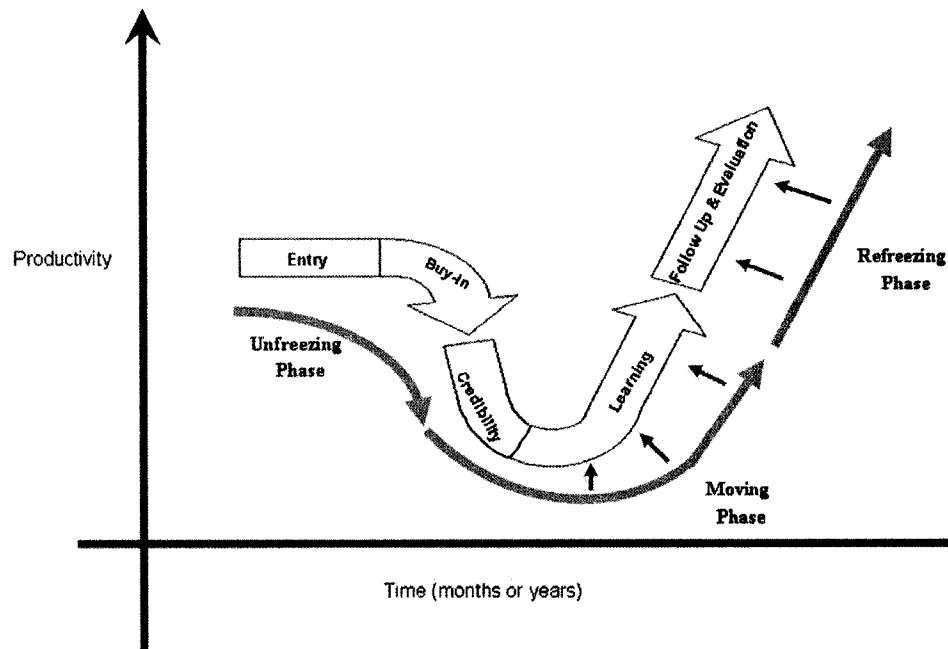


Figure 4. Consultant Stages Affecting Organizational Learning Phases Dealing with Significant Change

To emphasize the importance of the consultant's effectiveness being organizational learning, a quotation from P. Senge states, "A related claim is that competitive advantage is due to 'the rate at which an organization can learn'" (cited in Massey & Walker, 1999, p. 39) and endorsed by F. Steele, "learning is the essence of the consulting process" (cited in Massey & Walker, 1999, p. 40.). This research paper will focus on the partnership that a consultant and client establish to advance organizational learning.

Change in Process

Given the interest of the client organization to seek an external consultant's aid, the exploration of the optimal partnership begins.

Entry – The Consultant Pitch

The organization's initial search for a consultant is usually viewed as one of curious inquiry in which the organization is in search of assistance and the consultant is in search of an opportunity not only to earn an income but also to make a contribution. At this stage, there is an emphasis on the part of the consultant to attract interest in what she/he might be able to provide based on an initial contact with a potential client.

It is the sales pitch, highlighting expertise and qualifications, which convinces the client to explore a potential relationship with the consultant. As the organization explores the possibilities of using an external consultant to aid in its learning quest, it is imperative that the consultant be able to demonstrate that she/he has the means to deliver the personal communication, or, as in the case of Matt, seek out qualified people to represent his firm. Matt shares this concern:

When a person comes to me... I want them to get the feeling that they can always come to me with what they want and if I can't do it, I will find somebody very good of the quality that you would get from me to follow through and do it for them.

Gable (1996) states that the reason for selecting the consultant is based on the understanding that they are interested in both the means of delivery and the expected outcomes. This theme is reiterated by Massey & Walker (1999), where they state, "... an outsider is called in; the consultant who 'knows about' organizational learning and will assist the organization to achieve its goal" (p. 39).

When a consultant is brought onboard by the organization (client), a partnership is established. It is at this point that parameters outlining the conditions of this relationship be determined explicitly and conveyed between the two parties (Bechtel & Squires, 2001;

Gable, 1996; Massey & Walker, 1999). Massey and Walker (1999) further suggest that the understanding clearly spell out the roles of each participating group to enhance the interaction and avoid any problems with alignment.

Gaining entry into the organization by the consultant can be seen as the first stage for the consultant to aid the client, in the first phase of learning designated by Siegal et al. (1996) and Palvia and Chervany (1995) as unfreezing. This initial effort to seek outside assistance in order to minimize internal disruptions and maximize the efforts of the organization toward implementing the new change sets in motion the following next stages.

Decision Makers' Buy-in – “What does the Consultant Offer?”

The initial contact now leads into a more probing exchange. Through this exchange it is determined whether the consultant can benefit the organization, and conversely whether the organization feels the consultant selected can assist the organization. Brett comments on the importance of the consultant's personal communication: “they [client] pay someone to bring knowledge to them.” Matt sees this stage as also establishing credibility where he states:

... I talked with Bob your VP [consultant's client] and he said that you guys are having to going through this and you are probably not there ... and so the more we can have those conversations and tie it in to their specific issues then that gives you the credibility.

Here he uses the opportunity to talk with some of his client's personnel and incorporate these findings in a discussion with the organization's administration during his sales pitch.

The mutual relationship can be seen from both directions. The arrangement also can set up interactions for sporadic needs as determined by mutual agreement between both parties. Hislop (2002) quotes a respondent, a project leader from a consultant's client firm, saying:

I do actually use consultants quite a lot to say just let me run this by you.

Does this make sense? (and), Tell me, Sherlock, is this what the evidence says or is this just what I would like the evidence to say?

(p. 662)

The beginnings of a relationship are established, supporting the importance of setting up the potential for mutual benefits. At this stage the roles, responsibilities, and expectations need to be understood clearly by both parties prior to final arrangements and establishing the logistics (Bechtel & Squires, 2001; Gable, 1996; Massey & Walker, 1999). Roles are expressed by Brett's client who feels the consultant takes on a team support role and is driven by, "... how am I [consultant] going to make this organization better. ... working as an implementer." The details of the arrangement need to be worked out, clarified, and linked to the work environment. Mutually agreed upon adjustments can be made later on, however, these changes need to be understood by both parties and not assumed (Massey & Walker, 1999).

Once the initial identification of an actual consultant has been done, leadership of the organization sits down with the consultant and begins to work out the details of establishing a partnership. The partnership begins with the completion of this stage. This stage is still considered part of the unfreezing first phase of learning designated by both Siegal et al. (1996) and Palvia and Chervany (1995).

Message to the audience – “Why should the client listen?” – Credibility

To establish a better sense of credibility, it is important that the consultant, in conjunction with the client, conduct some type of evaluation of the organization in order to gain insight on current processes, as well as to project whether the planned efforts will be successful (Bechtel & Squires, 2001). Matt sees personal communication as a vital beginning:

I start with ... interviews with the key stakeholders, then what I do is draft an outline ... here is what I want to accomplish in six hours. I will then send that off to the company.

The information that is being imparted by the consultant to the client is scrutinized and evaluated for value constantly. In essence, the credibility of the message from the consultant is being determined by those who are part of the learning adventure. Schell and Black (1997) provide additional insight to learning credibility, in that the closer the experience of what is being learned is to the realistic work, the greater the overall learning experience. Brett sees the need to convince the audience, “The first thing is to show people what’s in it for them personally ... here is what you are going to get out of this.” Matt takes this further, looking at another way to establish his credibility by linking his presentation materials to a known expert(s), saying:

I’ve got a whole range of things on change management, “Who Moved My Cheese” is a good example. I like using “Who Moved My Cheese” because it is something people recognize and it gives instant credibility.

Once the commitment has been made and the tentative partnership has been forged between the consultant and client, the task of bringing key staff onboard begins. This stage takes the partnership into the beginnings of what Siegal et al. (1996) and Palvia

and Chervany (1995) identify as the moving phase of organizational learning. This strategic process is important for laying down the foundation of the transformation. The details of the partnership, which were defined earlier, are now put into action.

Throughout this stage, the credibility, skills, and abilities of the consultant are tested to determine if success can come from the partnership and whether a win-win situation can come from moving onto the next stage.

“The Message” delivery – Learning

Learning is at the heart of the partnership, whether it is referred to as training, development, or education (Bechtel & Squires, 2001; Massey & Walker, 1999; Schell & Black, 1997; Gable, 1996). One of Brett’s clients captures this meaning: “Your job [consultant] is to make the excitement of learning the issue.”

This stage is the fulfilment of the partnership agreement between the consultant and client. The organization transitions into the moving phase gaining an understanding of the message the consultant is trying to communicate and actually apply it within the organization. Learning on the part of the organization becomes imperative. The need for transferring the learning was demonstrated during an observation, where Matt used some of the following phrases in his presentation challenging the audience to think about the materials, “Okay what are we going to do about it [while sharing data results]? ... What did we get out of it?”

Massey and Walker (1999) point out that the importance of learning has two aspects. The first is individual development, which must be linked to the second, organizational development. Thus, the individual learning process is an important benefit to the whole organization.

Massey and Walker (1999) provide the insight linking organization development (OD) with organizational learning (OL), by stating:

This interest in organizational learning was built on the earlier contributions of OD and is consistent with its key principles: that positive change can occur within an organization, and that certain approaches can be used to increase the likelihood of its outcome. (p. 39)

The process of learning needs to encompass not only the transfer of knowledge, but also the know-how to use it. A respondent from the study done by Schell and Black (1997) summarizes the pertinence of transferring from the classroom to the workplace:

I think being in that class made me become a part of that because I have been on board at [Can Do] Tech for at least 21 years, but his class really inspired me.... when you challenge an organization ... you have to have your duck[s] in order, you have to be willing to go the distance ... (Schell & Black, Figure 2).

Even Matt supports the common interests of learning when he makes comments about, "... how do we take it from words on a page or words out of a mouth of a speaker," to make sure that the audience goes back and actually implements the learning.

The encouragement to take calculated risks must be promulgated, to promote the willingness of staff to participate in the change process. But, most important of all is that the learner must recognize how the specific training can be utilized in the workplace, and then actually apply it. Brett sees this as being vital: "I work with people one-on-one and show them and help them understand how to use the actual numbers."

Moving into the next stage, the organization begins to show some signs of benefiting from the partnership. These signs should come in the form of organizational

learning. Conversations should be happening where not only are staff discussing the issues, but appropriate jargon and tools are being utilized within the organization. This stage takes the organization into the upward swing of the moving phase. It is important at this stage that the transfer of knowledge occurs from the consultant to the client.

Follow up – Evaluation & Other Opportunities

As expressed above, the consultant must clear the first four hurdles to get to stage five. Ongoing evaluations are recommended not only to deal with the unanticipated, but also to maintain assurances that the consultant's efforts are addressing the current issues in a timely manner (Gable, 1996). Schell & Black (1997) offer some additional criteria to consider in conducting an evaluation. They recommend looking at both the learner's motivation and utilizing reflective measures, not unlike Matt's method: "I always grade myself after I get done. I do a self reflection."

Whether an evaluation is ongoing or being done at specified milestones, its intention is to ascertain learning progress as well as serve as a means to evaluate the overall learning situation and achievement of the organizational learning goals. In the summary of Gable's (1996) article he states:

Consultants who are dedicated to consulting excellence must put in motion a continuous process.... The consultant's post engagement review is an important mechanism for increasing the quality of the consulting service and 'selling on.' (p. 1194)

One such goal is a recognizable attribute of trust and is expressed by Schell and Black (1997), in their article summary, where they state: "... and a sufficient level of trust was achieved, a solid foundation for innovation and active learning was realized" (p. 18). In addition, Bechtel and Squires (2001) offer an additional measurable in their

narrative, stating, “Change management and our change model are now part of the fabric of our culture” (p. 254).

Now that there is the realization that the client has accepted the changes, implemented the new processes, and begun to use the new tools within the organization, the client can look to close out the partnership for this particular project. This takes the organization into the refreezing phase of organizational learning. With the stages clarified, the focus shifts to investigate whether the consultant’s involvement was favorable in influencing the organization through the change transformation phases. Even though assessment was ongoing throughout the interaction, a more thorough review is warranted. This review includes not only looking at how well the new tools and change processes have been embedded into the fabric of the organization’s culture, but also to determine whether there are any future opportunities for interaction of the partners in the future.

Findings

From all the observations beyond those of just the two consultants, including group discussions as well as interviews with the two consultants’ clientele, there was a unanimous and overwhelming consensus that the use of the consultant not only helped the organization learn the concepts quicker, but also helped the organization benefit sooner from the new strategies. Some of these client’s comments were: “Without the [consultant’s] help we would not have learned and struggled,” “last year we had the best bottom-line over several years,” and, “The [consultant’s] assistance has helped us gain insight to our operations ... and we [client] would not be as far along.” Feedback from one of Brett’s clients through a third party was, “They got a lot of benefit out of it [relationship], and they’re still using this [what was learned] to help them with some of

their systems.” It was also noted that an organization can engage multiple experts simultaneously and/or have multiple segments of the organization deal with the same expert on similar, new and/or complementing activities. This hastens the indoctrination of the learning into the work environment.

In summary, the findings confirm the proposition that an organization employing a consultant can expect to reduce the time going through the change transformation and regain productivity faster. This understanding is premised on consultant/client relationship being developed and optimal conditions of the proposed stages being met (see graphic in Figure 5).

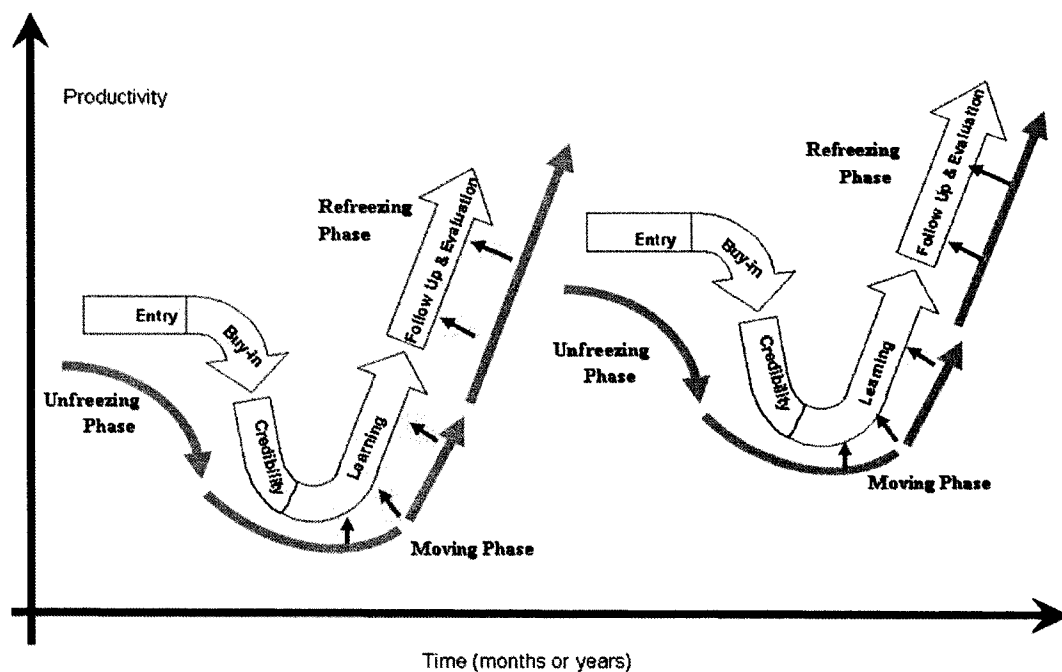


Figure 5. Consultant Stages Affecting Organizational Learning Phases & Organizational Change Cycle– Dealing with Significant Change

The essence of this is expressed by Brett’s comment, “A single presentation is entertainment ... [long-term relationship] is getting something out of it they can use and make themselves better.”

Limitations of This Research

The researcher recognizes that there are possibilities of biases when the researcher is also the interviewer. These biases can affect the potential to generalize findings. There is potential for the researcher to be selective in interpreting data as well as biasing the selection of details on which to focus. This was mitigated by collecting additional artifacts from the clients' respondents, referencing the consultants' materials, and doing member checks with the respondents.

In addition to the above, it is possible that the limited number of respondents may carry specific biases, which also could serve as a distraction away from other possible interpretations or findings given the unlimited circumstances in which one could become a prosperous consultant. Since the selection of the consultants was not random, diverse representations for the study results are recognized as being limited. There certainly is room for additional exploration in this area given the possibilities to involve other consultants, which could add to the overall diversity. It is also recognized that the geographic demographics could be a limitation in generalizing the findings not only outside the Midwest region of the continental U.S., but worldwide. However, it is recognized that the research was conducted in the field with the expectation to reduce threats to external validity, and that the two respondents have had and continue to have interactions outside the geographic region.

The choice of clients to observe was dependent upon the timing and the approval for the researcher to enter the environment. No formal verification was made that the clients being observed were indeed successful in their change transformation, but information gleaned from both the observations and interactions did provide credence that the clients indeed were progressing with change initiatives. Through these interactions, it

was confirmed that learning was taking place and new tools, as well as information from using continuous quality tools, were being used to better the organizations.

Although Straus and Corbin (1998) recommend at least 20-30 interviews when using a systematic grounded theory approach, this project includes six interviews and five observations of the two primary consultants. Even though the limited number could suggest limitations to obtaining saturation in analyzing the data, the focus was very in-depth and on the same theme for both the interviews and observations. To address this concern, supplemental materials from other observations involving different consultants were also used. This limitation serves as a suggestion for further research action.

Implications and Conclusion

The urgency and the magnitude of significant change is addressed by Kotter (1996), “By any objective measure, the amount of significant, often traumatic, change in organizations has grown tremendously over the past two decades” (p. 3).

For decades, organizations have been searching for a panacea to assist in dealing with significant change that will put them quickly back in the competitive market. One way of learning to deal with significant change within an organization can be accomplished by bringing in the right consultant and establishing an optimal partnership. This does not mean one can just sit back and watch it all happen. If only it were that easy!

The key elements are “learning” and “team efforts.” If the organization struggles with these elements, then seeking the aid of an external consultant may be beneficial. However, the organization should not let down its guard, thinking that by hiring a consultant, less effort needs to be put forth. The organization still must go through the transformation phases identified by Lewin. They can do so either on their own or seek

assistance. By partnering with a consultant, the organization can expect to go through the phases sooner and become productive faster if and only if the stages for establishing the partnership are optimized.

Further research, as well as history, will aid in refining the details of the consultant/client partnership stages, especially in relation to the learning transformation phase.

References

- Bechtel, R., Squires, J. (2001) Tools and Techniques to Facilitate Change. *Industrial and Commercial Training*, Vol 33 No 7, pp. 249-254
- Blanchard, K., Waghorn, T. (1997) *Mission Possible -- Becoming a World-Class Organization While There is Still Time*. New York: McGraw-Hill.
- Bloom, L. (2003) *Qualitative Research Methodology - Research and Evaluation* 580. Lecture Materials
- Brotherson, M. (2003) *Grounded Theory: What, When, and How? -- Research and Evaluation* 580. Lecture Materials
- Carr, A. (2000) Critical Theory and the Management of Change in Organizations. *Journal of Organizational Change Management*, Vol 13 No 3, pp. 1-11
- Chrusciel, D., Field, D. (2002) Success Factors in Dealing with Significant Change in an Organization. Manuscript submitted for publication, Iowa State University.
- Collins, D. (2002) Climbing Bridalveil Falls: Organization Change, Process and Re-engineering. *Strategic Change*, Vol 11 No 2, pp. 81-93
- Fiorina, C. (2002, June) Mastering Change. *Executive Excellence*, Provo, UT, Executive Excellence Publishing, Vol 19 No 6, pp.10-11
- Gable, G. (1996, August) A Multidimensional Model of Client Success When Engaging External Consultants. *Management Science*, Vol 42 No 8, pp. 1175-1198
- Graetz, F. (2000) Strategic Change Leadership. *Management Decision*, Vol 38 No 8, pp. 550-564
- Hislop, D. (2002) The Client Role in Consultancy Relations During the Appropriation of Technological Innovations. *Research Policy*, Vol 31, pp. 657-671

- Huning, A. (1999, Summer) Preferences and Value Assessments in Cases of Decision Under Risk. *Society for Philosophy & Technology*, Vol 4 No 4, pp.15-20
- Kotter, J. (1996) *Leading Change*. Harvard Business School Press, Boston, MA.
- Lewin, K. (1952) Group Decision and Social Change. *Readings in Social Psychology*, Henry Holt and Company, New York, pp. 459-473
- Massey, C., Walker, R. (1999) Aiming for Organizational Learning: Consultants as Agents of Change. *The Learning Organization*, Vol 6 No 1, pp. 38-44
- Merriam, A. and Associates (2002) *Qualitative Research in Practice*. John Wiley and Sons, Inc., San Francisco, CA.
- Nadler, D., Nadler, M. (1998) *Champions of Change*. Jossey-Base, San Francisco, CA
Reference to: "S-Shaped Sigmoid Curve" (pp. 45-50)
- Teece, D.J. (1987) *Competitive Challenge*. Harper Collins, New York.
- Tushman, M.L., Anderson, P.C., and O'Reilly, C. (1996) *Managing Strategic Innovation and Change*. Oxford University Press, New York.
- Palvia, S., Chervany, N. (1995) An Experimental Investigation of Factors Influencing Predicted Success in DSS Implementation. *Information & Management*, No 29, pp. 43-53
- Qubein, N. (2001, January) *Embracing Change*. Executive Excellence: Provo, UT
Executive Excellence Publishing, Vol 18 No 1, p.17
- Roach, D., Bednar, D. (1997, June) The Theory of Logical Types: a Tool for Understanding Levels and Types of Change in Organizations. *Human Relations*, No 50, pp. 671-99
- Romanelli, E., Tushman, M. (1994) Organizational Transformation as Punctuated Equilibrium: An Empirical Test. *Academy of Management Journal*, Vol 37 No 5, pp. 1141-1166

- Schell, J., Black, R. (1997, Summer) Situated Learning: An Inductive Case Study of a Collaborative Learning Experience. *Journal of Industrial Teacher Education*, Vol 34, No 4, pp.1-19
- Siegal, W., Church, A., Javitch, M., Waclawski, J., Burd, S., Bazigos, M., Yang, T., Anderson-Rudolph, K., Burke, W. (1996) Understanding the Management of Change, An Overview of Managers' Perspectives and Assumptions in the 1990s. *Journal of Organizational Change Management*, Vol 9 No 6, pp. 1-20
- Strauss, A., Corbin, J. (1998) *Basics of Qualitative Research: Technique and Procedures for Developing Grounded Theory*. Sage Publications, Thousand Oaks, CA.
- Weber, P., Weber, J. (2001) Changes in Employee Perceptions During Organizational Change. *Leadership & Organizational Development Journal*, Vol 22 No 6, pp. 291-300

CHAPTER 4. CONSULTANT AS TEACHER OR TEACHER AS CONSULTANT, WHAT IS THE RELATIONSHIP?

A paper accepted for publication in the Leadership and Organization Development Journal¹

Don Chrusciel²

Abstract

When an organization decides to hire an external consultant to assist in dealing with a significant change, the question arises as to how to choose the right one for the job. The focus of this paper is to explore this relationship through three (3) propositions. The first proposes that an organization employing a consultant can expect to reduce the time going through change transformation and regain productivity faster. The second is that because the focus is on significant change, there is the belief that the consultant must become intimately involved with the organization to be effective. And the third proposition is that in order to be an effective consultant within the organization, experience as a teacher/educator is important if not required. Utilizing qualitative grounded theory research, these three (3) propositions are examined for validity with the findings supporting the first two propositions, but not the third.

¹ Awaiting publication in the Leadership and Organization Development Journal

² Primary researcher, author, and graduate student

Introduction

Organizations are looking to their leadership for effective ways to deal with significant change (Chrusciel & Field, 2003; Chrusciel & Field, 2002). This is important because it is through change that an organization hopes to maintain its competitive edge (Collins, 2002; Fiorina, 2002; Graetz, 2000; Qubein, 2001; Siegal, et al., 1996; Weber & Weber, 2001). One way to deal with this phenomenon is to seek help and a popular way of gaining this help is to hire an external consultant. Consultants usually are called in when the organization has the resources and feels that the expertise is not available internally, and/or the outside expert's viewpoint will be accepted more readily than that of any internal expert. Does this mean that the consultant becomes the organization's teacher?

This paper explores the relationship between the consultant and the client through three (3) propositions. The first proposes that an organization employing a consultant can expect to reduce the time going through change transformation and regain productivity faster. The second addresses the emphasis on significant change suggesting that the consultant needs to become intimately involved with the organization to be effective. And the third proposition is that in order to be an effective consultant within the organization, experience as a teacher/educator is important if not required.

Given the importance of dealing with significant change, this research examines the role of the consultant in dealing with organizations and suggests that under optimal conditions the interaction can be seen as a successful teacher-learner relationship. Toward this end, background on the issues of significant change and curriculum, followed by the introduction of the research methods used, are presented. The remainder of the paper focuses

on the findings based on qualitative research in support of the consultant's role as an organizational teacher.

Organization-Significant Change

Significant change can be described as any change that has an impact on the enterprise due to some radical organizational adjustment. It is seen as affecting the financial health of the operation, and often is referred to as strategic in nature. This change also is considered to be morphogenic, meaning that it takes on the nature of creating new forms, and it is permanent and pervasive (Roach et al., 1997). It can be considered frame-breaking, culture-changing, transforming, radical, revolutionary, etc., where one or all of the four components (people, tasks, technology, and structure) are the impetus (Carr, 2000). The question then becomes: how does an organization incorporate the appropriate philosophy of dealing with change and proliferate this philosophy among its staff? The qualitative research methods utilized explores the use of a flexible curriculum via a consultant to facilitate this learning mode as a viable option.

Significant Change Requires a Curriculum

As an enterprise looks to make a significant change within, it is important to have a plan of action that takes into account the identification of the issues and available resources, as well as the need to provide appropriate instruction to implement the change (Chrusciel & Field, 2002; Hotek & White, 1999). Existing training and education need to be replaced with more pertinent education focusing on the new issues (Kotter, 1995). If the change involves skill-based activities, then the curriculum should focus on training; if the change is knowledge-based, then the curriculum should be considered educational (Wilson, Jonassen, & Cole, 1993). The intent of the enterprise is not only to incorporate the specified change,

but to do so with minimal disruption. It is also important to achieve the desired outcomes through an efficient and cost-effective implementation. In general, it is accepted that if goals are achieved, the process used to get there was effective (Householder & Boser, 1991).

An appropriate curriculum is designed such that it draws on theory to produce a non-theoretical, operational guide for making decisions (Hansen, 1995). It is important that the instructor be seen as a facilitator, using a curriculum – a plan whereby the learner realizes that the discovery of knowledge stems from his/her own effort. Preaching the message to the audience without the buy-in certainly will communicate the information, which can be an added benefit, (Klein, 1996), but it is questionable as to whether it will be adopted, and, more importantly, acted upon. Thus, the instruction needs to take into account not only the orientations (learner-based) suggested by Mockford and Denton (1998), but also the theory (instruction-based) provided by Hansen (1995). Most important, in addition to linking back to a practical use in the work environment, the instruction must also provide the insight as to how the change will benefit each stakeholder. It needs to address both the technical and the human elements upon which the change transformation touches for all participants (Chrusciel & Field, 2002; Bovey & Hede, 2001).

Many organizations are seeking external consultants who not only introduce the staff to the concepts, but also facilitate their use. Consultants who are engaged in these activities as a business, are compensated for adding value, and are getting paid for assisting organizations. Werr, Stjernberg, and Docherty (1997) conclude that the choice of the consultant is based upon not only the methodology, but also the experience of the consultant and their ability to invoke collaboration and facilitate learning within the enterprise. It is from this perspective that the role of a consultant as a teacher is investigated further.

Methods

Respondents

The primary respondents in this research project were a group of self-employed middle-aged male consultants. All are successful independent consultants operating primarily out of a metropolitan community located in the Midwest U.S. They service not only the surrounding communities within a 200-mile radius, but also have some major out-of-state clients (firms). Their expertise ranges from topics in human resource issues to change management. It is the change management expertise that prompted the choice of these consultants as well as their availability and willingness to participate in this project.

The selection of organizations observed was the direct result of the client/consultant relationship and at the discretion of the respondent (consultant), taking into consideration the research interest, along with timing, availability, and geographic location to minimize research costs, and permission to enter the work environment. It is recognized from the onset that focusing on only one gender in one geographic location may introduce a severe limitation. An attempt to mitigate this limitation is made in delivering the findings along with providing supporting research from the literature.

Methodology

The qualitative research design utilized was grounded theory (Merriam, 2002; Strauss & Corbin, 1998), which focuses predominately on the consultants and their clientele who are dealing with change. Data were collected through multiple qualitative observations and multiple interviews using a semi-structured, open-ended interview guide. The investigation focused on whether the external consultant who performed the function of organizational

teacher can aid/benefit the organization in developing and applying tools to maintain a flexible work environment so as to optimize efforts for future change transformations.

The aim of this research is to probe into the role of the selected consultant with regard to learning within an organization, especially when it is trying to deal with change. The importance of learning is emphasized in a quotation from F. Steele, saying, “learning is the essence of the consulting process” (both cited in Massey & Walker, 1999, p. 40.)

To explore these (one or many) factors that a consultant can either bring and/or endorse to aid in organizational learning, separate observations were combined with separate interviews. In support of triangulating the data, several of the respondents reviewed the transcripts, and additional materials, such as organizational training documents, and consultant training materials, were collected and examined.

Developing a Curriculum for Significant Change: Teaching the Organization

An organization’s transformation can be seen as the S-curve (sigmoid shaped) pattern of change transformation identified by Teece (1987) and later refined by Tushman (1996) (cited by Nadler & Nadler, 1998), which Blanchard and Waghorn (1997) refer to as the learning curve for an organization (see appendix A). It is from the examination of the organization’s perspective on how they are progressing through the “Trough of Chaos” (Scott & Jaffe, 1995) up the S-curve, that the potential success of a change within the organization influenced by the consultant can be reviewed. Even with this identification there remains the need for some type of methodology that the organization must adopt as a change philosophy in order to successfully traverse the P-curve (present) and prepare for the F-curve (future) (refer to appendix B).

Another complementing model as defined by Siegal et al. (1996) and Palvia and Chervany (1995) provides clarification on Lewin's fundamental description of change transformation within an organization by going through three phases: unfreezing, moving, and refreezing (cited by Siegal et al., 1996; Palvia & Chervany, 1995). The first phase of "unfreezing" is the recognition by the organization of the opportunities that can be gained from the change and beginning to let go of the status quo. This is followed by the "moving" phase, which involves the actual aspects of development whereby the organization attempts to distill and implement the desired change, and finally the "refreezing" phase, which attempts to support and reinforce the change being incorporated within the enterprise. These phases can be superimposed on the S-curve (sigmoid shaped) pattern of change identified above as the learning curve for an organization (see appendix C).

Utilizing the framework recommended by Strauss and Corbin (1998) for systematic grounded theory, data from interviews and observations were analyzed utilizing the three (3) levels of coding: open, axial, and selective. Open coding involves breaking the data down and doing the initial categorization. Axial coding takes these categories and refines them through comparisons, examining the relationships between categories. Finally, by using selective coding not only are categories integrated and refined, they are examined for saturation as well. This means no new information or categories are needed and the data from all interviews and observations have been reduced to generate, in general, a core group of categories of explanation. Through this systematic approach the proposed theories are grounded in the analyzed data and are believed to reflect the consultants' experiences as well as input from their client organizations.

Data and information were first collected from a single consultant and the affiliated clients as a means to initiate the investigation. After the first interview and observation, the data were open coded to identify potential categories for further investigation. Data were then collected through an additional follow-up interview and observation while at the same time examining the developments being gleaned from the information utilizing the axial coding process. As the categories developed and further exploration through another interview and observation took place, additional consultants were interviewed and observed. The data gathered from all participants (consultants and clients) were then open coded for any unidentified categories, combined with existing findings and axial coded to identify any missed relationships between the categories. Finally, all pertinent data were analyzed via selective coding to gain assurance of saturation. It is from this analysis process that three propositions are put forth and felt to be worthy of discussion.

The first proposition is that an organization employing a consultant can expect to reduce the time spent in the change transformation as previously described and regain productivity faster. This understanding is premised on the consultant/client relationship being developed and optimal conditions of a teacher-learner partnership being met. If the consultant is engaged early in the transformation process, the effect should be positive in reducing not only productivity loss, but also reducing the time frame to progress along the transformation S-curve (see appendix D).

The ability to deal with significant change is ongoing and gaining in importance. As stated by P. Drucker (2003), “Major changes – both the major threats and the major opportunities – will dominate the executive’s task in the next 10 to 15 years, maybe even longer.” (pg. 3) And by J. Kotter (1996):

By any objective measure, the amount of significant, often traumatic, change in organizations has grown tremendously over the past two decades.... To date, major change efforts have helped some organizations adapt significantly to shifting conditions, have improved the competitive standing of others, and have positioned a few for a far better future.” (pg. 3 & 4)

The second proposition is that because the focus is on significant change, the consultant must become intimately involved with the organization to be effective in aiding the organization through the change transformation. It is proposed that the effectiveness of the consultant to influence the organization must go beyond a single presentation and into a longer, extended association with more in-depth interactions in order to promote the successful transfer of knowledge into the work environment.

The third proposition is that in order to be an effective consultant, background as a teacher/educator is important if not required. This argument stems from the importance in having a consultant with the appropriate credentials and expertise to foster the teacher-learner relationship.

In an effort to either substantiate or refute the propositions, theoretical sampling (i.e. theory based on an analytical schema supported by data gathering driven by the concepts of that theory) was used. This allowed the researcher to look for common incidents among the respondents and their clients, and explore the possible variations of the proposed propositions. It should be noted that the sampling was highly selective and discriminate. Emphasis was placed on investigating only those consultants who fit the prescribed profile (dealing with organizational change, middle-age, successful livelihood, etc.) and clients who

viewed themselves as not only gaining from the interaction, but received recognition as being successful in dealing with some sort of significant organizational change.

It is also recognized that at the heart of this effectiveness is organizational learning. More specifically, the overall interest in learning is best summed up by a quotation from P. Senge, stating, “A related claim is that competitive advantage is due to ‘the rate at which an organization can learn’” (cited in Massey & Walker, 1999, p. 39). Learning is at the heart of the partnership, whether it is referred to as training, development, or education (Bechtel & Squires, 2001; Massey & Walker, 1999; Schell & Black, 1997; Gable, 1996). In essence, the entity that can develop an organizational philosophy using a flexible curriculum in dealing with significant change will improve upon its competitive advantage. This research paper will focus on the partnership (teacher-learner) that a consultant and client establish to advance organizational learning in preparation for dealing with significant change.

Change in Process

When a consultant is brought onboard, a partnership is established. The interest is to examine this partnership via the three propositions in the context of the identified change transformation theory. The approach will be to briefly review the conditions for establishing a consultant/client relationship, follow by discussions of the last two propositions, and then conclude with the first proposition whereby the benefits of such a relationship are captured.

At the entry stage, the parameters outlining the conditions of the relationship are determined explicitly and conveyed between the two parties (Bechtel & Squires, 2001; Gable, 1996; Massey & Walker, 1999). Massey and Walker (1999) suggest that the understanding clearly spell out the roles of each participating group so the interaction can be enhanced and to avoid any problems with alignment between what the consultant(s) is doing

and what the client expects. One respondent sees this aspect as being so important that his sentiments are if the client does not feel what they received was beneficial, then the respondent (consultant) does not accept payment for the session. At the same time, the respondent does see the importance of establishing an agreement that sets up the overall scope with expectations. This serves as a counter-balance to clarify any ambiguity; making sure that the business relationships along with all expectations are properly spelled out, is imperative to final success.

Entry into the organization by the consultant sets in motion the first phase of learning designated as unfreezing. The mutual relationship can be seen from both directions. The arrangement also can set up interactions for sporadic needs as determined by mutual agreement between both parties. Hislop (2002) quotes a respondent, a project leader from a consultant's client firm, saying:

I do actually use consultants quite a lot to say just let me run this by you.

Does this make sense? (and), Tell me, Sherlock, is this what the evidence says or is this just what I would like the evidence to say?

(p. 662)

By examining this partnership closer, one can begin to see the establishment of a teacher-learner relationship. This was seen in the consultant-client observations and best illustrated by several consultants who as part of their routine use the technique of asking the audience (client) at the end of each session to present to the group what they gained during the session, (i.e. "pearls of wisdom"). This served not only as a feedback mechanism to the consultant on teaching content or technique, but also as a means to gain assurance that the audience captured the essence of what was to be learned.

Regardless of the contract specifics, the suggested teacher-learner theme is apparently based on the interest for both parties to experience a win-win interaction. As one respondent/consultant puts it, “there is nothing secretive about what I bring to the organization. It can be gained from multiple sources available to the public, but they [client] would rather pay someone to bring the knowledge to them.” This is not to be construed that an organization is always willing to throw money toward a problem without expecting results. One consultant’s remarks expresses this, “I know if I am not giving them a good return on their investment [a long term relationship] it’s not going to last.” It is the theme of the relationship which sparks the interest to explore the extent of having more than just a single presentation by a consultant on a specific topic.

Intimate Involvement

Once the commitment has been made and the tentative partnership has been established between the consultant and client, the task of bringing key staff onboard begins. This takes the partnership into the beginnings of the moving phase of organizational learning. At this point, as offered in the second proposition, the relationship between consultant and client needs to become more intimate. The need for an ongoing and more in-depth interaction is expressed by one respondent, “When you take a broad subject like change management, ultimately, the goal is to get in and talk to the organization and try to break it down into some specific issues.” This in turn sets the stage for a long-term relationship.

The goal of the partnership agreement is to help the organization transition through the moving phase while gaining an understanding of the consultant’s message as well as actually applying it within the organization. The need for transferring knowledge through learning was demonstrated during an observation, where one respondent used some of the

following phrases in his presentation challenging the audience to think about the materials, “Okay what are we going to do about it [while sharing data results]? ... What did we get out of it?” It was apparent that the consultant was looking for more than just providing the feedback numbers. He was trying to promote an active discussion, and at minimum, consideration for what the data was communicating to the group (client). Stemming from this exchange there is the hope that the audience would learn about the importance of collecting data and correctly interpreting the findings.

Massey and Walker (1999) point out that the importance of learning has two aspects. The first is individual development, which must be linked to the second, organizational development. Thus, the individual learning process is an important benefit to the whole organization. They provide the insight linking organization development (OD) with organizational learning (OL), by stating:

This interest in organizational learning was built on the earlier contributions of OD and is consistent with its key principles: that positive change can occur within an organization, and that certain approaches can be used to increase the likelihood of its outcome. (p. 39)

The function of learning needs to encompass not only the transfer of knowledge, but also the use of it. A respondent from the study done by Schell and Black (1997) summarizes the pertinence of transferring from the classroom to the workplace:

I think being in that class made me become a part of that because I have been on board at [Can Do] Tech for at least 21 years, but his class really inspired me.... when you challenge an organization ... you have to have

your duck[s] in order, you have to be willing to go the distance ...

(Figure 2).

The actual learning is not necessarily restricted to the group learning environment. As a matter of fact, the proposition of intimacy implies that the consultant is expected to promote learning not only in the group gatherings, but with individuals when it is deemed necessary. A respondent echoed this as being vital: “I work with people one-on-one and show them and help them understand how to use the actual numbers.” Another speaks to this need saying:

I ended up having to do personal coaching with her [client] to get her to begin to open up to the possibilities the situation was presenting to her, and I work with the management side and increase their knowledge or in some cases increase their confidence.

On this basis the consultant must analyze the need and be prepared to interact with the client with the understanding that it can involve all levels of the organization.

As one further explores these interactions, a specific attribute of intimacy, trust, is expressed by Schell and Black (1997), in their article summary, where they state: “... and a sufficient level of trust was achieved, a solid foundation for innovation and active learning was realized” (p. 18). This became apparent from the respondents in this project with the comment, “And so you have to rely on your internal stakeholders [client] to give you some honest feedback...” and by another saying, “One of the things that we always talk about is that you have to have open and honest communication.” In addition to recognizing the need, the true success of intimacy comes as a two-way interaction as expressed by one consultant who shared his sentiments, “I feel good that they [client sub-group] are coming to me and felt

confident to say, ‘We’ve got a problem here.’” These are some of the indicators observed to signify the importance of intimacy in the relationship and it is on this basis that confirmation for the second proposition is supported.

Consultant’s Role – Teacher/Educator

As the organization explores the possibilities of using an external consultant to aid in its quest for learning, it is imperative that the consultant be able to demonstrate that she/he has the means to deliver the expected message. Logic suggests that if someone is seeking to be taught, seek those who have credentials for teaching. It is from this sentiment that the third proposition is formulated. Gable (1996) states that the reason for selecting the consultant is based on the understanding that they are interested in both the means of delivery and the expected outcomes. This theme is reiterated by Massey & Walker (1999), where they state, “... an outsider is called in; the consultant who ‘knows about’ organizational learning and will assist the organization to achieve its goal” (p. 39).

Roles, responsibilities, and expectations need to be understood clearly by both parties prior to final arrangements and establishing the logistics (Bechtel & Squires, 2001; Gable, 1996; Massey & Walker, 1999). The importance of roles is expressed by one of the respondent’s clients who feels the consultant takes on a team support role and is driven by, “... how am I [consultant] going to make this organization better... working as an implementer.” The details of the arrangement need to be worked out, clarified, and linked to the work environment. This is not to say that as the interaction commences, roles cannot be adjusted and/or shift to accommodate the new demands. However, these changes need to be understood by both parties and not assumed (Massey & Walker, 1999). It is on this basis that the third proposition is explored. In order to determine the importance for having teaching

credentials, a more thorough examination of the relationship is warranted. The question of how the consultant's credentials influence the interaction between the consultant and client is best revealed by further investigating how the credibility of the consultant is viewed by the learner (client).

From the onset, the information that is being imparted by the consultant to the client is constantly scrutinized and evaluated for value. In essence, the credibility of the message from the consultant is being determined by those who are part of the learning adventure. Schell and Black (1997) provide additional insight to learning credibility, stating that the closer the experience of what is being learned is to the realistic work, the greater the overall learning experience. There should be immediate interest by the learner to see practical value. The consultant is expected to bridge the gap between theory and application.

One way of doing so was seen by the expression of empathy from the consultant to the client through personal experience. As one respondent put it, "Actually it's two things [that I provide]; it is knowledge and also the experience of working with the actual application of the tools." From their background discussions, the respondents gained personal experience in dealing with significant change just by deciding to become full-time consultants and leave their well-paying corporate jobs. Doyle (2002) emphasizes the importance of this experience, when he states, "Change expertise can only be derived from real-world experience and learning" (p. 470).

So, what is gleaned from the findings is that the actual credential of the consultant may not necessarily have as much influence on the teacher-learner interaction as originally believed. In fact, all of the successful consultants in this study held post-secondary degrees in fields other than teaching. From these findings the inference is drawn: although teaching

skills are recognized as important, having the official credentials was not seen as a significant factor. Instead, the consultant's ability to transfer the knowledge of their particular expertise to the learner/client was more important than overall recognition of teaching experience. The interest and/or passion in what is being delivered gives the consultant the added credibility. One of the respondent's clients captures this meaning, "Your job [consultant] is to make the excitement of learning the issue." It is suggested that perhaps the showing of enthusiasm for one's beliefs is more important than the actual credentials and experience. As one respondent put it, "I really believe in and enjoy it [what I am doing]." In fact the emphasis shifts from the importance of the delivery to inspiring the learner, which is best stated by one consultant, "The first thing in my opinion is to show people what's in it for them personally to make the change." This emphasis was apparent, observed in almost all exchanges between consultant and client, and was identified by Chrusciel and Field (2002) as a significant change critical success factor. From these exchanges the client-learner not only draws out that which is being taught, but begins to see the usefulness and applies it to their work environment.

When the organization begins to utilize the knowledge transferred from the consultant, the merits of learning can be experienced. In addition, Bechtel and Squires (2001) offer an additional measurable in their narrative, stating, "Change management and our change model are now part of the fabric of our culture" (p. 254). These types of actions represent the refreezing phase, or as one consultant put it, "socialization of the change." Contemporary times dictate that organizations need to confront change more often and that failing to do so could put one's competitive advantage at risk. It becomes important for organizations to not only handle significant change, but to become adept at doing so. Scott

and Jaffe (1995) stated, “Organizations that handle the process of changing an organization’s culture well, reduce the time required for similar changes in the future.” (pg. 12)

With interest to optimize resources in moving an organization through the change transformation, the findings in support of the first proposition are now offered. From all observations and interviews of the respondents’ clients, there was a unanimous and overwhelming consensus that the use of the consultant not only helped the organization learn the concepts quicker, but also helped the organization benefit sooner from the new strategies. One client’s comments:

Without the [consultant’s] help we would not have learned, and struggled, last year we had the best bottom-line over several years. The [consultant’s] assistance has helped us gain insight into our operations ... and we [client] would not be as far along.

Additional feedback from a client through a third party was, “They got a lot of benefit out of it [relationship], and they’re still using this [what was learned] to help them with some of their systems.” Thus, feedback coming from the combination of both interviews and observations serves as confirmation that the consultant’s role did indeed aid the organization through the change transformation process, supporting the claims of the first proposition.

In summary, those organizations that successfully employed a consultant recognized the benefit in having them assist the organization through the change transformation and regain productivity sooner than expected. This relationship is based on more than just the consultant/client interaction. The relationship is one of a teacher-learner partnership that if appropriately set up will help to establish the optimal conditions for success.

In regard to proposition three, there was no support to affirm the need or requirement of the consultant to have a teacher/educator credential and/or professional experience as an educator to be successful. This is not to say that the consultant does not need to be a good teacher, but rather that formal training is not seen as a requirement. In fact, most clients of the consultant found personal field experience in work-related areas more beneficial than the need to recognize the consultant as a teacher having teaching credentials. The bottom-line is best summarized by one respondent's comments, "...what it really comes to is how can we take from words on a page, or words out of the mouth of a speaker, to actually going back and being implemented on the job?"

Limitations of This Research

It is recognized that there are possibilities of biases based on the method and format of this research. These biases can affect the potential to generalize the findings. The first is when the researcher is also the interviewer. As Borland (1991) points out, when doing qualitative research, the assumption of translation needs to be noted, especially when dealing with the assumption of a likeness of mind. An attempt to mitigate this influence was done by posing the same questions to more than one consultant, comparing the responses for likeness as well as asking for more detailed clarification when warranted. This was also addressed by collecting input through formal interviews and additional artifacts from the respondents' clients, referencing the consultants' materials, and doing member checks with the respondents.

As mentioned earlier, one can also view the choice of only male respondents as a severe limitation. This along with the limited number of respondents may carry specific biases, which also could serve as an influence away from other possible interpretations or

findings. Because the focus was to concentrate on the middle-aged successful consultants, the availability of a cross-gender group of respondents was restricted and found to be unavailable. Selection of female consultants in the region who are successfully dealing with organizational change as a livelihood was extremely limited. The inability to identify a more diverse group which includes females is seen as a demographics limitation and needs to be taken into account. Nonetheless, the researcher recognizes that there is room for additional exploration in this area given the possibilities to involve other consultants, which could enhance the overall diversity. It is also recognized that the geographic demographics could be a limitation in generalizing the findings not only outside the Midwest region of the continental U.S., but worldwide. Research was also conducted in the field with the expectation to reduce threats to external validity, and that the all the respondents do have consulting activities outside the geographic region.

The choice of clients to observe was dependent upon the timing and the approval for the researcher to enter the environment. No formal verification was made that the clients being observed were indeed successful in their change transformation, but information gleaned from both the observations and interactions did provide credence that the clients were progressing with change initiatives. Through these interactions, it was confirmed that learning was taking place and new tools, as well as information from using continuous quality tools, were being used to better the organizations.

Straus and Corbin (1998) recommend at least 20-30 interviews when using a systematic grounded theory approach; this project includes six interviews and ten observations of the consultants. Even though this project had a smaller than recommended number, the focus was very in-depth and on the same theme for all the interviews and

observations. This limitation serves as a suggestion for further research, which could allow more insight, and further substantiate the findings and propositions.

Implications and Conclusion

One way of learning to deal with significant change within an organization can be addressed by bringing in a consultant. This entails establishing certain parameters in order to optimize the benefits gained from entering the relationship. One of these influencing parameters is giving recognition to the role of the consultant in their dealings with the organization. The importance of the interaction stressing the establishment of an intimate teacher-learner relationship is recognized. This assumes that the selected consultant can teach and that the organization is interested in learning what is being offered. This assumption does not necessarily require the consultant to have a teaching credential, nor have formal teaching experience to be productive.

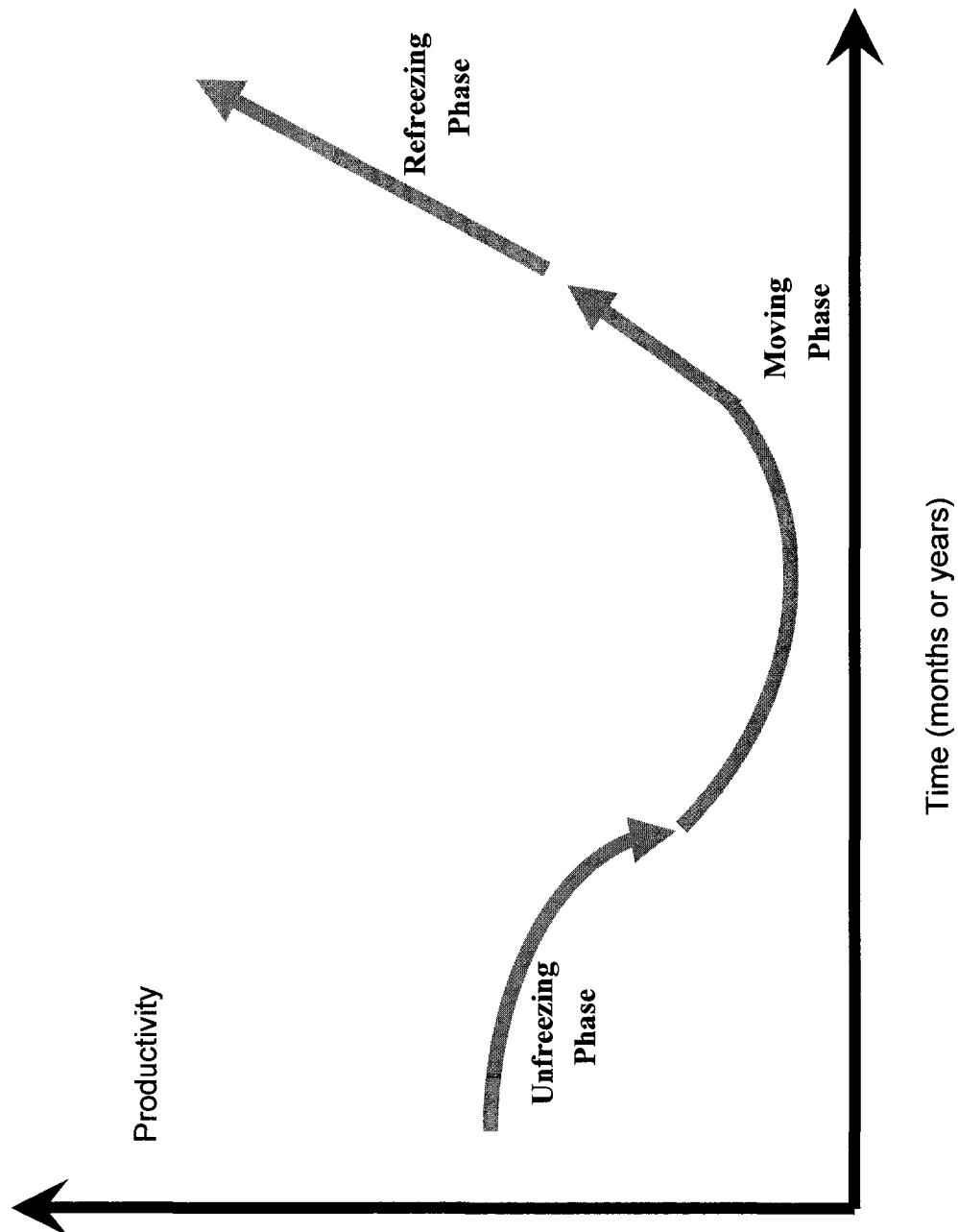
In choosing to hire a consultant the organization has recognized that they are lacking something which needs to be provided by an external source. Recognizing that this need is intangible, it is important that every effort be made to establish the optimal conditions to maximize the gain from the interaction. Choosing the appropriate person to assist the organization does not necessarily require that person to be an expert teacher, but rather an expert in the field in which they are teaching the organization.

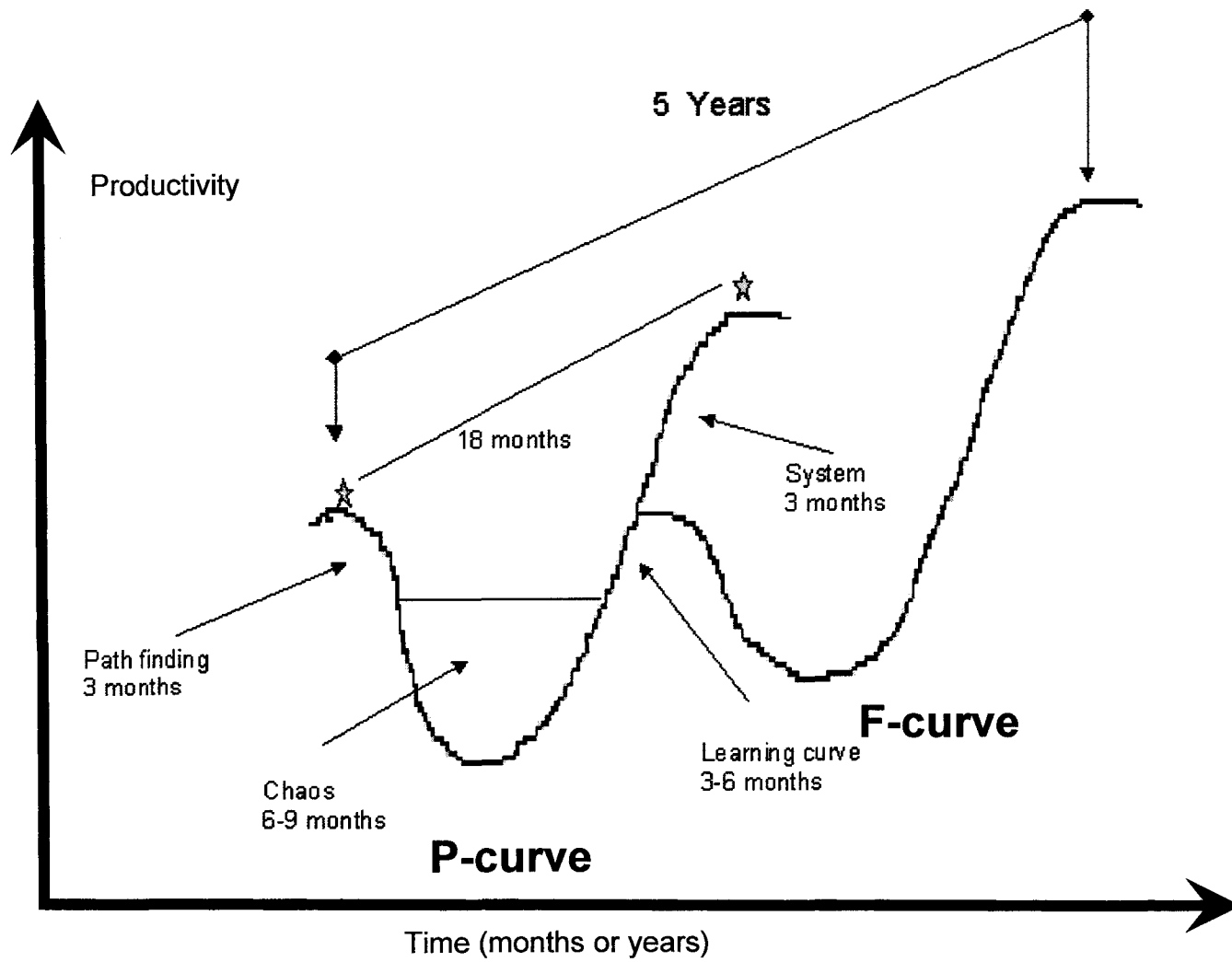
If optimal conditions are established (i.e. an intimate teacher-learner relationship as proposed is established), it is predicted that both parties will be able to capitalize on the key elements of “learning” and “team efforts.” If the organization struggles with these elements, then seeking additional aid to overcome these barriers may be beneficial. It is important to recognize that even with the optimal conditions, the organization must still go through

Lewin's transformation phases along the S-curve(s) refined by Tushman. However, the partnership with a consultant resulting in the establishment of an appropriate relationship will aid the organization in going through the phases sooner and become regain productivity faster if conditions are optimized.

Appendix A

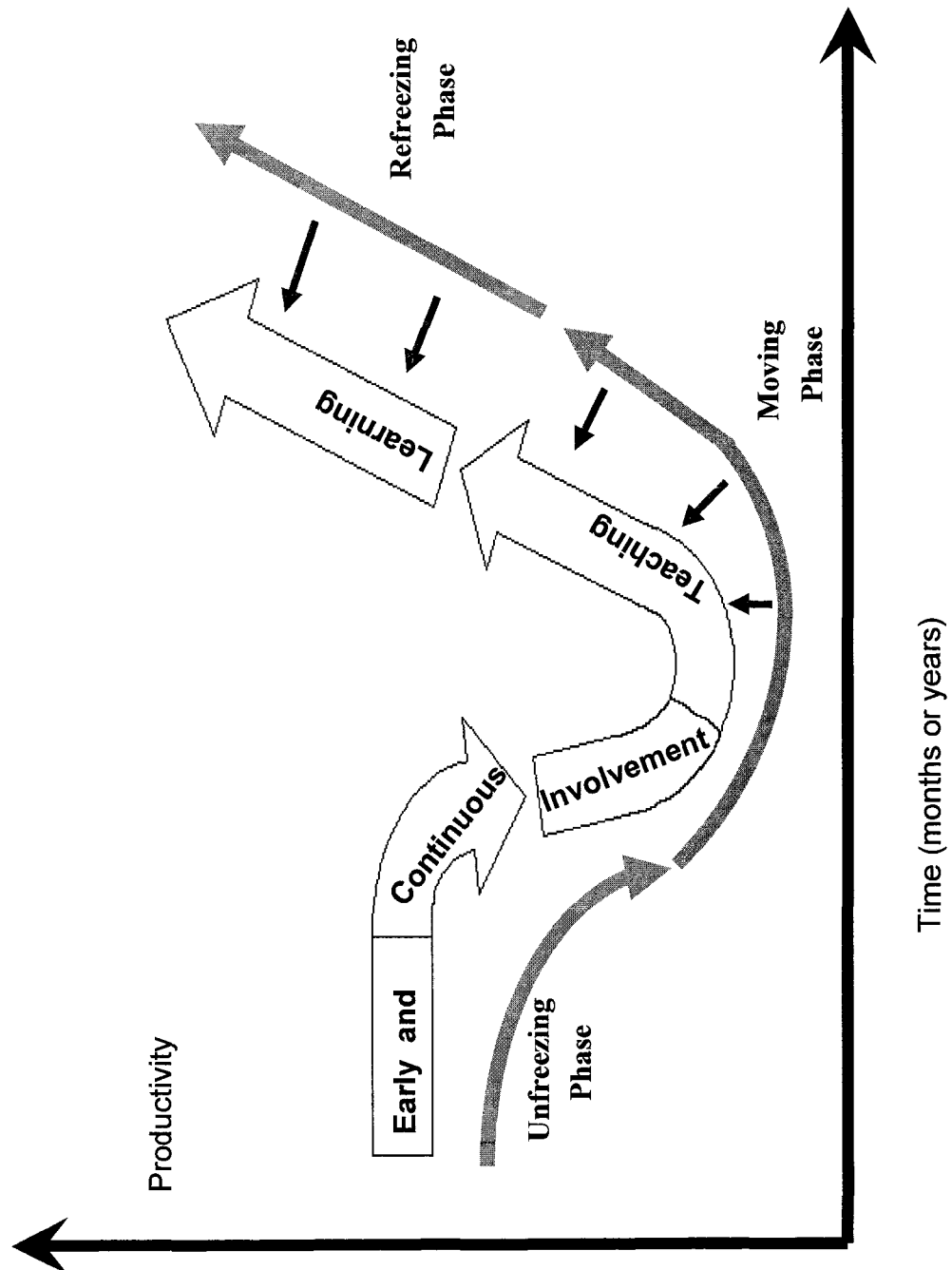
Transformation Phases – Dealing with Significant Change Cycle
Lewin's Model (cited by Siegal et al., 1996; Palvia & Chervany, 1995)
applied to "Sigmoid Curve" (Teece, 1987; Tushman, 1996) [cited by Nadler, 1998]

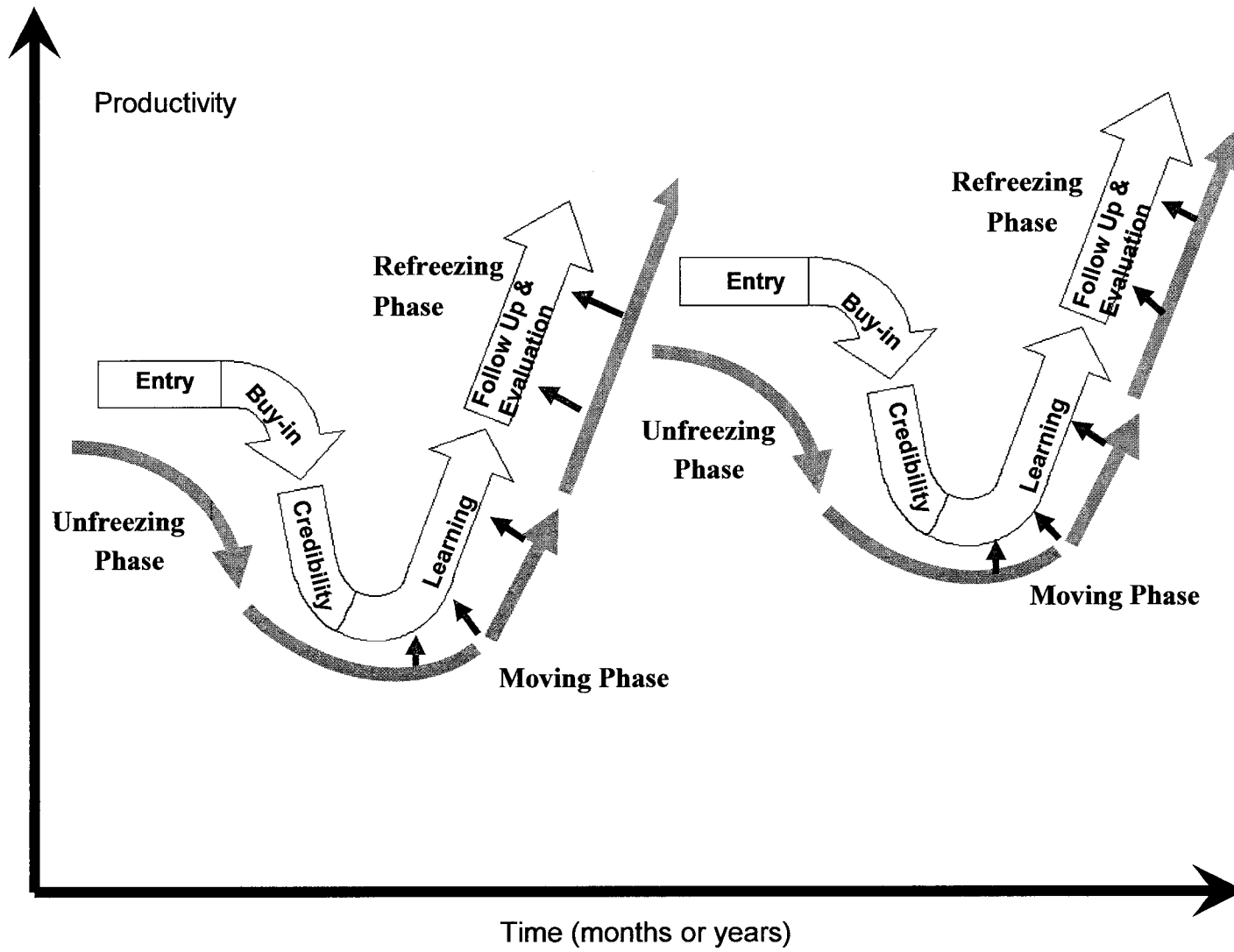




Appendix B
Organizational Change Cycle
Based on Blanchard & Waghorn, 1997

Appendix C
Consultant Stages Affecting Organizational Learning Phases
– Dealing with Significant Change





Appendix D
 Consultant Stages Affecting Organizational Learning Phases &
 Organizational Change Cycle – Dealing with Significant Change

References

- Bechtel, R., Squires, J. (2001) Tools and techniques to facilitate change. *Industrial and Commercial Training*, Vol 33 No 7, pp.249-254
- Blanchard, K., Waghorn, T. (1997) *Mission Possible – Becoming a World-Class Organization While There is Still Time*. McGraw-Hill, New York.
- Borland, K. (1991) “That’s Not What I Said”: Interpretive Conflict in Oral Narrative Research, in Gluck, *Woman’s Words: The Feminist Practice of Oral History*, pp. 63-75
- Bovey W., Hede A. (2001) Resistance to organizational change: The role of cognitive and affective processes. *Leadership & Organization Development Journal*, Vol 22 No 8, pp. 372-382
- Carr, A. (2000) Critical theory and the management of change in organizations. *Journal of Organizational Change Management*, Vol 13 No 3, pp. 1-11
- Chrusciel, D., Field, D. (2003) From critical success factors into criteria for performance excellence – an organizational change strategy. *Journal of Industrial Technology*, Vol 19 No 4, pp. 49-59
- Chrusciel, D., Field, D. (2002) Success factors in dealing with significant change in an organization. Manuscript submitted for publication, Iowa State University.
- Collins, D. (2002) Climbing Bridalveil Falls: Organization change, process and re-engineering. *Strategic Change*, Vol 11 No 2, pp. 81-93
- Doyle, M. (2002) From change novice to change expert; Issues of learning, development and support. *Personnel Review*, Vol 31 No 4, pp. 465-481

Drucker, P. (May, 2003) Future of management, start seeing change as a golden opportunity.

Executive Excellence. Executive Excellence Publishing, Provo, UT, 20(5), 3

Fiorina, C. (2002, June) Mastering Change. Executive Excellence. Executive

Excellence Publishing, Provo, UT, Vol 19 No 6, pp.10-11

Gable, G. (1996, August) A multidimensional model of client success when engaging external consultants. Management Science, Vol 42 No 8, pp. 1175-1198

Graetz, F. (2000) Strategic change leadership. Management Decision, Vol 38 No 8, pp. 550-564

Hansen, R. (1995) Five principles for guiding curriculum development practice: The case of technological teacher education. Journal of Industrial Teacher

Education, Vol 32 No 2, pp. 1-17

Hislop, D. (2002) The client role in consultancy relations during the appropriation of technological innovations. Research Policy, Vol 31, pp. 657-671

Hotek, D., White, M. (1999, Winter/Spring) An overview of performance technology.

The Journal of Technology Studies, Vol XXV No 1, pp. 43-50

Householder, D., Boser, R. (1991, Spring). Assessing the effectiveness of the change to technology teacher education. Journal of Technology Education, Vol 2 No 2,

pp. 1-17

Klein, S. (1996) A management communication strategy for change. Journal of

Organizational Change Management, Vol 9 No 2, pp. 32-46

Kotter, J. (1996) Leading Change. Harvard Business School Press, Boston, MA.

Kotter, J. (1995, March/April) Leading change: Why transformational efforts fail.

- Harvard Business Review, Vol 73 No 2, pp. 59-67
- Massey, C., Walker, R. (1999) Aiming for organizational learning: Consultants as agents of change. *The Learning Organization*, Vol 6 No 1, pp. 38-44
- Mockford, C., Denton H. (1998, Winter/Spring) assessment modes, learning styles, and design and technology project work in higher education. *The Journal of Technology Studies*, Vol XXIV No 1, pp. 1-8
- Merriam, A. and Associates. (2002) *Qualitative Research in Practice*. John Wiley and Sons, Inc., San Francisco, CA.
- Nadler, D., Nadler, M. (1998) *Champions of Change*. Jossey-Base, San Francisco, CA.
Reference to: "S-Shaped Sigmoid Curve" (pp. 45-50)
- Teece, D.J. (1987) *Competitive Challenge*. Harper Collins, New York.
- Tushman, M.L., Anderson, P.C., and O'Reilly, C. (1996) *Managing Strategic Innovation and Change*. Oxford University Press, New York.
- Palvia, S., Chervany, N. (1995) An experimental investigation of factors influencing predicted success in DSS implementation. *Information & Management*, No 29, pp. 43-53
- Qubein, N. (2001, January) *Embracing Change*. Executive Excellence, Executive Excellence Publishing, Provo, UT, Vol 18 No 1, p.17
- Roach, D., Bednar, D. (1997, June) The theory of logical types: A tool for understanding levels and types of change in organizations. *Human Relations*, No 50, pp. 671-99
- Schell, J., Black, R. (1997, Summer) Situated learning: An inductive case study of a collaborative learning experience. *Journal of Industrial Teacher Education*,

Vol 34, No 4, pp.1-19

Scott, C., Jaffe, D. (1995) *Managing Change At Work*. Menlo Park, CA: Crisp Publications.

Siegal, W., Church, A., Javitch, M., Wacławski, J., Burd, S., Bazigos, M., Yang, T.,

Anderson-Rudolph, K., Burke, W. (1996) Understanding the management of change, an overview of managers' perspectives and assumptions in the 1990s. *Journal of Organizational Change Management*, Vol 9 No 6, pp. 1-20

Strauss, A., Corbin, J. (1998) *Basics of Qualitative Research: Technique and Procedures for Developing Grounded Theory*. Sage Publications, Thousand Oaks, CA.

Weber, P., Weber, J. (2001) Changes in employee perceptions during organizational change. *Leadership & Organizational Development Journal*, Vol 22 No 6, pp. 291-300

Werr, A., Stjernberg, T., Docherty, P. (1997) The functions of methods of change in management consulting. *Journal of Organizational Change Management*, Vol 10 No 4, pp. 1-16

Wilson, B., Jonassen, D., Cole, P. (1993) *Cognitive Approaches to Instructional Design*. The ASTD handbook of instructional technology. McGraw-Hill, New York.

CHAPTER 5. From Critical Success Factors into Criteria for Performance Excellence – An Organizational Change Strategy

A paper published in the Journal of Industrial Technology¹

Donald Chrusciel^{2,3} and Dennis W. Field²

Abstract

As organizations learn to deal with significant change, research suggests a link between critical success factors and the need to utilize a more comprehensive framework by which the organization can continue on its quest for excellence. By utilizing a combined quantitative and qualitative research methodology and focusing on a single case study dealing with a Decision Support System, this paper examines that link. Organizations that go through a significant change transformation need to look beyond the critical factors for success and implement a strategy to continue their quality journey. Towards this end, developing a framework based on the Malcolm Baldrige National Quality Criteria for Performance Excellence is explored in-depth.

¹ Reprinted with permission of the Journal of Industrial Technology, 2003, 19(4)

² Graduate student and Assistant Professor, respectively, IEDT Department, Iowa State University

³ Primary researcher and author, author of correspondence

From Critical Success Factors into Criteria for Performance Excellence – An Organizational Change Strategy

How can an organization know that change will be worthwhile, effective, and successful? How can an organization evaluate the transformation of, and the impact on, itself resulting from a significant change such as the implementation of a Decision Support System (DSS)? The Malcolm Baldrige National Quality (MBNQ) Criteria for Performance Excellence is suggested as a potential tool to aid in this regard. Although these criteria do not spell out specific metrics to be used, they do provide a foundation and perhaps a better perspective on how an organization can approach the measurement of significant issues that impact organizational and cultural transformation.

A combination of both quantitative and qualitative methodology is used to investigate the transition from critical success factors, related predominately to localized significant change, to criteria for performance excellence. The research methodology confirms the successful change transformation, identifies the success factors in doing so, and points out the need for a more comprehensive framework by which the organization can continue on its quest for excellence. It is from this framework that a recommendation is made to employ a recognized tool set such as the Baldrige Criteria for Performance Excellence.

Although the emphasis is on a single organization dealing with a single significant change (e.g., the implementation of a DSS), there is the potential for these insights to be more broadly applicable. This in turn suggests the need to consider an action plan that will go beyond dealing with just a single significant change transformation.

Change and Significant Change

In today's environment, it is considered inevitable for organizations to undergo constant change (Roach & Bednar, 1997; Siegal, Church, Javitch, Wacławski, Burd, Bazigos, Yang, Anderson-Rudolph, & Burke, 1996; Romanelli & Tushman, 1994). Most of these changes are due to variables, either internal or external, that require a response in order to stay productive and competitive. Change is happening constantly and in most cases is absorbed by the organization through minor adjustments to the tactical (daily) action plan (Roach et al., 1997). Even in nature, change is evolutionary and recognized as a relative constant in fundamental realities throughout the course of history (Huning, 1999). In the ongoing quest to be competitive, organizations are looking at, and are being exposed to, more comprehensive change. This type of comprehensive change is referred to as significant if it requires that an enterprise must respond in order to maintain its competitive advantage.

One may also describe significant change as any change where there is impact on the enterprise due to some radical organizational adjustment. Significant change is seen as having impact on the financial health of the operation and is often referred to as strategic in nature. This change is also considered to be morphogenetic, meaning that it takes on the nature of creating new forms, and it is permanent and pervasive (Roach et al., 1997). It can be considered frame breaking, culture changing, transforming, radical, and revolutionary, where one or all of the four components (people, tasks, technology, and structure) are at the impetus (Carr, 1994). Both Siegal et al. (1996) and Palvia & Chervany (1995) provide clarification on Lewin's fundamental description of change transformation within an organization by going through three phases: unfreezing, moving, and refreezing (cited by Siegal et al., 1996; Palvia & Chervany, 1995). It is from this perspective that one can

examine the potential success of a change within the organization. Unfreezing is the recognition of potential opportunities that can be gained from the change. This is followed by the moving phase which involves the actual development aspects, and finally the refreezing phase which attempts to support and reinforce the change being incorporated within the enterprise (Palvia & Chervany, 1995).

Through the examination of the introduction of a Decision Support System (DSS) within an organization, the factors that maximize success can be examined. Mallach (1994) identifies a DSS as an information system having the following common factors: it is used by managers; it is used to make decisions; it is used to support people, not replace them; and it deals with either semi-structured or unstructured decisions, utilizes data in a database, and incorporates the use of models. Bhargava, Suresh, and Herrick (1999) define Decision Support Systems as software applications that allow the user to formulate a solution using some type of scientific or analytical algorithm. A more simplistic definition is provided by Wrenden (1997), who states that a DSS is a set of software applications that allows the end user to investigate the relationships that exist within huge volumes of data, in order to aid in making better decisions.

A change such as the implementation of a DSS can be the spark that initiates another change, not necessarily predictable, which in turn starts a chain reaction of change (Roach et al., 1997). The question is, can the leadership have a positive influence in some way on the initial spark and guide the process. The chain reaction of change could then be focused in a positive way. In essence, the goal of the change transformation is to alter basic assumptions currently held in esteem by the organization, in favor of some altered version that leadership has deemed worthy (Roach et al., 1997). Through the review of a single incident such as

implementing a DSS, one can gain insight as to why it is imperative that leaders look at formulating an overall strategy by which to guide the organization through ongoing change.

Critical Success Factors to Criteria for Performance Excellence

The DSS is a decision support system, not a decision maker. The ability to measure benefits for innovation can move from a quantitative to a more qualitative measure by taking into account the human interaction factor within the DSS implementation. One might examine, for example, how the DSS is actually utilized and benefits the enterprise.

Guimaraes, Igbaria, and Lu (1992) suggest that the success factors for a DSS can be categorized into four major areas: the implementation process, the business tasks involved, the decision makers, and the nature of the DSS. Averweg and Erwin (1999) discuss the success of implementing a DSS identifying guidelines for a successful implementation using “Critical Success Factors” (CSF), many of which overlap the findings of other researchers. A prescribed list of critical success factors for the implementation of a DSS, and for dealing with overall change, has been identified and is presented in Table 1 (P. Weber & J. Weber, 2001; Graetz, 2000; Averweg & Erwin, 1999; Hotek & White, 1999; Underwood-Stephens & Cobb, 1999; Rothwell & Kazanas, 1998; Turban, 1996; Palvia & Chervany, 1995; Rouda & Kussy, 1995; Guimaraes et al., 1992).

Table 1. Critical Success Factors – Defined

Factor Name	Importance	Definitions
Top Management Support	Critical	Active and visible support from the management of the organization, often in the form of a champion for the application.
User Training	Critical	Clear demonstrations as to how to use an application.
Perceived Utility	Critical	Belief by users of the DSS that it is important and has impact on the success of the organization.
Planning and Analysis*	Critical	Evaluation of the gap between where the organization is now and where it would like to be. Examination of all possible influencing variables.
Assessment	Critical	Evaluation of the effectiveness of change.
Comprehensive Communication	Critical	Communication of the change message to all levels throughout the organization.
Perception of Organizational Readiness to Deal with Change	Critical	Staff perceptions of organizational readiness to deal with change in terms of whether they will work to either undermine or facilitate a successful effort.
Curriculum dealing specifically With Change.	Critical	Prescribed yet flexible instruction plans (roadmaps) based on contemporary ideas and theories by which the organization attempts to educate its staff about the important change issues dealing with both the technical and human aspects.
Perception of Personal Gain	Critical	Perception of how an individual's participation would provide any personal gain to himself or herself by being associated with the change or the process.

Table 1. (continued)

Factor Name	Importance	Definitions
User Involvement	Important	Reality in which the ownership of the DSS is in the hands of the end-users.
Information Source	Important	Reality in which data are current and readily available.
Level of Managerial Activity Being Supported	Important	Location in the organizational structure where the DSS proves to be the most helpful and ultimately used.
User Information Satisfaction	Important	Satisfaction with the final product and its acceptability.
Relative Use	Important	Level of use of the DSS.
Goal Realization	Important	Degree to which the expectations for the DSS have been met
Ability to Utilize the DSS	Important	Overall ability of the end-user to utilize the DSS.
* An important element of this factor is the perception of fairness and justice in the management of the entire change process.		

Research supports that even though some of the factors stated above may influence success, the factors having the most influence usually stem from the early stages of the process (including the design), which in turn supports early user buy-in and the identification of a champion (McCune, 1999; Mentzas, 1996; Palvia & Chervany, 1995; Kivijärvi & Zmud, 1993; Guimaraes et al., 1992; Sage, 1981). It is important to not only evaluate the transformation solely by the Critical Success Factors noted in Table 1, but perhaps to consider other influences such as timing and overall communication.

Combining these critical success factors with the “Unfreezing, Moving, and Refreezing” theory of Palvia and Chervany (1995), one can look at the success or failure of a

proposed DSS as depending upon how well the change process within the enterprise is managed. The Malcolm Baldrige National Quality “Criteria for Performance Excellence” can be introduced to suggest a framework by which an organization can manage their change processes. More specifically these criteria can complement an organization’s methodology for implementing a DSS by providing, first a clearer understanding of how an organization might deal with significant change, and second, a method for gauging success as a measure of how changes impact the organization.

The Malcolm Baldrige National Quality (MBNQ) “Criteria for Performance Excellence” have evolved through time. Initial development work on the Awards began in 1983 and a milestone was reached in 1988 with the first presentation of the Malcolm Baldrige National Quality Awards (MBNQA). The award has now grown to be recognized as the highest honor for business excellence (MBNQA, 1998). Although the award is indeed a worthy trophy, the program itself serves a vital purpose in emphasizing the importance of quality in the workplace and improving upon the enterprise’s quest for the competitive advantage. The MBNQA “Criteria for Performance Excellence” (CPE) prescribes, in a descriptive way, the seven major categories felt to be of importance to an enterprise. This breakdown, minus the descriptions, is provided in Appendix A. It is postulated that the critical success factors for a significant change, such as a DSS implementation, identified by Averweg and Erwin (1999) and supported by others, can be linked both directly and indirectly to the CPE. All of the critical success factors dealing with significant change identified in Table 1 can be compared with the “Criteria for Performance Excellence” as presented in Table 2.

Table 2. Critical Success Factors Compared to Criteria for Performance Excellence

Critical Success Factor	Criteria for Performance Excellence
Top Management Support	Leadership and Strategic Planning
User Training	Human Resource Focus and Process Management
Perceived Utility	Information Analysis, Process Management, and Business Results
Planning and Analysis	Strategic Planning, Information Analysis, Process Management, and Business Results
Assessment	Information Analysis, Process Management, and Business Results
Comprehensive Communication	Leadership, Strategic Planning, Human Resource Focus, and Process Management
Perception of Organizational Readiness to Deal with Change	Leadership, Strategic Planning, and Process Management
Curriculum Dealing Specifically with Change.	Strategic Planning, Human Resource Focus, and Process Management
Perception of Personal Gain	Human Resource Focus and Business Results
User Involvement	Human Resource and Customer & Market Focus
Information Source	Information Analysis and Business Results
Level of Managerial Activity Being Supported	Information Analysis, Human Resource Focus, and Process Management
User Information Satisfaction	Customer & Market Focus and Human Resource Focus
Relative Use	Strategic Planning and Process Management
Goal Realization	Business Results
Ability to Utilize the DSS	Strategic Planning and Process Management

In comparing some of the critical success factors, such as the first three listed in Table 2, the elements of top management support are given clarification in the “Leadership” section of the CPE. Top management support delves into how the leaders not only provide the support, but also deal with values, expectations, communication, and review. User training is specifically addressed in “Human Resource Focus,” and is also dealt with in “Process Management.” Perceived utility is viewed in potentially three areas, “Information Analysis,” “Process Management,” and “Business Results.” It is also recognized that this factor, as well as all others, could be looked at in almost all CPE categories depending upon the nature of the DSS. A more in-depth presentation linking all sixteen identified “Critical Success Factors” to the “Criteria for Performance Excellence” is left for further discussions. In addition, even the highly desired, if not required, need for designers and users to cooperate during the DSS implementation process is addressed in the CPE in both “Human Resource Focus and “Process Management.” The CPE goes further in attempting to also suggest not only looking at support from leadership, but also between peers. Bhargava et al. (1999) re-emphasize the importance of this aspect in pointing out that the future of decision-making is moving in the direction of using group forums. These particulars will only serve to compound the ongoing need to promote, support, encourage, and monitor cooperative efforts and coordination since these are also recognized as key elements for group decision support systems (Mentzas, 1996).

Methodology and Findings

The Facilities Planning and Management operations at Iowa State University went through the implementation of DSS, its Computerized Facilities Management System called FAMIS (Facilities Administrative Management Information System). The FAMIS system

captures vital daily operational activity and allows management the functionality to both monitor and analyze this information, and aid in making both tactical and strategic planning decisions. The process started in late 1997 with the expectation to replace the organization's aging and non-Y2K-compliant legacy Computerized Facilities Management System. The new Computerized Facilities Management System went live in July 1999.

Now that the system has been in place for several years, a thorough post-implementation review of the process can be done. To explore more in depth, the use of Critical Success Factors and the migration to Criteria for Performance Excellence a survey was conducted of the staff who were both employed at the time of implementation and who now use the system. The first step was a self-administered questionnaire patterned after typical, structured interview questions. This was judged to be the most effective way to collect preliminary data and provide confidentiality (see Appendices B & C).

From this survey response, the data were analyzed with descriptive statistics looking at the means, standard deviations, and the skew (see Appendices B & C). Results confirmed that the implementation of the DSS was a significant change to the organization and that the sentiments in the organization are that it was successful. Confirmation of the presence and importance of the majority of the "Critical Success Factors" identified in Table 1 are supported by the quantitative findings from the survey where mean values are greater than "3.4." The survey instrument was judged to be reliable based on Chronbach's alpha ($\alpha = .89$) for the survey data. A qualitative research methodology was used to further supplement and explore the findings of the quantitative results. This methodology not only provided a plausible research framework to complement the results of the quantitative survey analysis (Glesne, 1999; McCutcheon & Meredith 1993; Eisenhardt, 1989; and Yin, 1981), but also

provided the segue into exploring potential linkages between the use of “Critical Success Factors” and “Criteria for Performance Excellence.” The confirmation of the critical success factors listed in Table 1 was established by using the qualitative data single subject case study methodology (McMillan & Schumacher, 2001; McCutcheon & Meredith 1993). The methodology employed emphasized the examination of organizational documentation combined with ongoing observations (McMillan & Schumacher, 2001; Glesne, 1999; McCutcheon & Meredith, 1993; Eisenhardt, 1989; and Yin, 1981). The use of a qualitative methodology not only confirmed the presence of all the “Critical Success Factors,” but also aided in exploring the organization’s initial use of the Criteria for Performance Excellence.

Further investigation uncovered that parallel to the implementation and companion processes, staff were encouraged to attend continuous quality improvement training. There was no demonstrated link between this training and the specific significant change initiative that the organization had experienced, nor was there any attempt to relate the training back to any practical application in the work environment. The linkage of training from these sessions back to the actual work environment was lacking, thus devaluing the potential gain from the effort. Since that time, the organization has concentrated efforts on promoting the more extensive use of the Baldrige criteria as a framework by which staff can examine individual operating units and related processes for overall improvement. From these observations the importance of combining a curriculum with incentives becomes apparent. The curriculum introduces and encourages staff to utilize the CPE tools to promote change, while appropriate incentives are useful in promoting continuous follow-through. A theme echoed by many in the organization was that without this buy-in, no matter how well a program is provided, it is unlikely that the practices endorsed would be applied.

Limitations of This Research

Some areas of potential concern that need to be taken into account are the sample size, respondent biases, lack of a control group, and employee-employer relationships. Another concern is that a self-reporting questionnaire is recognized as being subjective rather than objective. The author attempts to address some of these by using a combined quantitative and qualitative research approach. When and where it was feasible, confirmation from more than one source was sought to verify and possibly triangulate findings. While the data supported the findings that the identified critical success factors were indeed present in the implementation of the Decision Support System for the Facilities Planning and Management organization, caution may need to be exercised in extending these findings to an organization outside of the institution as well as outside of higher education. Although emphasis was on the “Critical Success Factors,” indications of “Criteria for Performance Excellence” were found to be present. It was discovered that the majority of the staff within the organization at the time did not have an understanding of the Malcolm Baldrige National Quality Awards or the CPE. This made it difficult to specifically link and accurately measure the overall influence that the CPE had from the perspective of the staff. Finally, it is also recognized that the organization did not have any formal metrics for measuring the extent of any of the “Critical Success Factors” or the “Criteria for Performance Excellence” with regards to this project.

Implications and Conclusion

The MBNQ “Criteria for Performance Excellence” do not provide the actual measures an enterprise needs to use to obtain success, nor does it provide a specific methodology. An organization must determine these factors for itself based on the multiple

influential variables that the enterprise deems valuable. These factors and criteria need to involve the staff of the enterprise. It is through a curriculum of education that an organization can introduce its desired change philosophy by which the individual staff person gains while the organization as a whole benefits. The organization must also determine the methodology as well as the actual metrics regarding how it will determine success within its environment. Some of the critical success factors to implement a DSS, or deal with significant changes that have been identified and suggested, offer the enterprise some guidance in change transformation. There is no panacea that can be offered with respect to measuring any of the critical success factors, nor is there a magic formula to mix these critical success factors, or any others, to suggest the best plan of action. Investigations only point out that the perceived presence of critical success factors is important. The actual metrics must be determined by the enterprise, based upon what the enterprise views as being most important. The “Criteria for Performance Excellence” suggest areas of sensitivity, provide a framework that encourages the enterprise to look at its processes, aid in determining critical success factors, and most important of all, put emphasis on going through the exercise. The greatest gain, however, is through actually doing it and harvesting the most from its investments.

Appendix A

Baldrige Criteria for Performance Excellence (BNQP, 2002)

1. Leadership
 - 1.1. Organizational leadership
 - a. Senior Leadership Direction
 - b. Organizational Performance Review
 - 1.2. Public Responsibility and Citizenship
 - a. Responsibilities to the Public
 - b. Support of Key Communities
2. Strategic Planning
 - 2.1. Strategy Development
 - a. Strategy Development Process
 - b. Strategic Objectives
 - 2.2. Strategy Deployment
 - a. Action Plan Development and Deployment
 - b. Performance Projection
3. Customer and Market Focus
 - 3.1. Customer and Market Knowledge
 - 3.2. Customer Satisfaction and Relationships
 - a. Customer Relationships
 - b. Customer Satisfaction Determination
4. Information and Analysis
 - 4.1. Measurement and Analysis of Organizational Performance
 - a. Performance Measurement
 - b. Performance Analysis
 - 4.2. Information Management
 - a. Data Availability
 - b. Hardware and Software Quality
5. Human Resource Focus
 - 5.1. Work Systems
 - 5.2. Employee Education, Training, and Development
 - 5.3. Employee Well-being and Satisfaction
 - a. Work Environment
 - b. Employee Support and Satisfaction
6. Process Management
 - 6.1. Product and Service Processes
 - a. Design Processes
 - b. Production/Delivery Processes
 - 6.2. Business Processes
 - 6.3. Support Processes
7. Business Results
 - 7.1. Customer Focused Results
 - 7.2. Financial and Market Results
 - 7.3. Human Resource Results
 - 7.4. Organizational Effectiveness Results

Appendix B – Survey Summary

Section I questions deal with the benefits of FAMIS as a change in the FP&M organization. It addresses the question of how FAMIS has helped the organization.

Strongly Disagree Disagree Neutral Agree Strongly Agree (SAMPLE)
 1 ----- 2 ----- 3 ---X---4 ----- 5

Question Number	Description	CSF	Mean	STD	Skew
1	Do you feel that the implementation of FAMIS was a significant change for the organization?	Change	4.29	.47	-1
2	Do you feel that the implementation of FAMIS Within FP&M was successful?	Successful Goal Realization	3.92	.38	-.3
3	Do you feel that a strategy was used for the implementation of FAMIS?	Plan & Analysis	3.84	.57	-.4
4	Do you feel that you were informed of the strategy to implement and use FAMIS?	Communication	3.67	.65	+1.19
5	If a strategy were used, do you feel that you were part of that strategy?	Involvement (early)	3.25	.85	-1.5
6	Do you feel that as a user you were sufficiently involved with the implementation?	Involvement	3.63	.77	-.75
7	Do you feel that the organization was prepared adequately to handle this type of change?	Readiness	3.42	.63	-.23
8	Do you feel that the way the organization implemented FAMIS followed a method that could be used in the future?	Plan & Analysis	3.57	.71	-.48
9	Do you feel that FAMIS overall serves the organization well in what it is suppose to do?	Utility	3.98	.66	-1.18
10	Do you feel that FP&M Administration was supportive of the implementation?	Admin. Support	4.43	.43	-.53
11	Do you feel your direct supervisor was supportive of the FAMIS implementation?	Admin. Support	4.11	.70	-.81
12	Do you feel that the use of FAMIS aids the Organization in accomplishing its mission?	Utility & Info Source	4.20	.64	+1.14
13	Do you feel that FAMIS provides valuable Information to the organization?	Utility & Info Source	4.32	.56	+4.68
14	Do you feel that user training for FAMIS was adequate?	Training	3.58	.80	+0.02
15	Are you aware of how the organization has and continues to measure whether the use of FAMIS is successful?	Assessment	2.5	.82	-1
16	At implementation startup, do you feel the season of the year had impact?	Startup	3.23	1.16	-1.18

Please rank the top five (5) attributes in this Section I! 1 (highest rank) and 5 (lowest rank).

Appendix C – Survey Summary

Section II questions deal with the benefits that you have **personally** or could have gained by FAMIS being implemented and used in FP&M. It addresses the question of your personal gain.

Question

Number	Description	CSF	Mean	STD	Skew
1	<i>Do you feel that there was adequate communication about the implementation and the progress?</i>	Communication	3.67	.74	-.16
2	<i>Do you feel that there was adequate training for the staff in how to implement this type of a change in the organization?</i>	Curriculum	3.39	.80	-.24
3	<i>Did the gender of the FP&M organizational FAMIS coordinator have impact on your involvement?</i>	Gender	1.71	.71	+.97
4	<i>Do you feel that supporting the FAMIS implementation and use of FAMIS has aided your standing in the organization?</i>	Gain	3.02	1.31	-.14
5	<i>Do you feel that FAMIS provides you valuable information to perform your job?</i>	Utility & Satisfaction	4.22	.73	-1.14
6	<i>Do you feel that the implementation and use of FAMIS has allowed some individuals within the organization to advance themselves?</i>	Gain	3.44	1.04	-.44
7	<i>Do you wish you could have been more involved with the implementation and now the use of FAMIS?</i>	Involvement	3.02	.98	+.08
8	<i>Do you feel that your education, experience, and background were sufficient to deal with the implementation and use of FAMIS?</i>	Readiness	4.15	.68	-.94
9	<i>Do you feel that you have a clear understanding in how the organization deals with change of this nature?</i>	Curriculum	3.35	.84	-.71
10	<i>Do you feel that the organization would allow you to become more informed on how it deals with change?</i>	Support	3.62	.80	+.15
11	<i>Does the organization provide sufficient information and opportunity for staff to become more familiar with the organizational change process?</i>	Curriculum	3.14	.89	+.36
12	<i>It would greatly benefit me personally if I were to become more knowledgeable in how the organization with organizational change like implementing FAMIS.</i>	Curriculum	3.39	.86	-.19
13	<i>Do you feel that you have a sufficient knowledge in using FAMIS?</i>	Ability to Utilize	3.92	.67	.0
14	<i>Did the name of the software application "FAMIS" have impact on your involvement?</i>	Name	1.70	.77	+1.1

Please rank the top five (5) attributes in this Section II! 1 (highest rank) and 5 (lowest rank).

References

- Averweg, U.R., & Erwin, G.J. (1999). Critical success factors for implementation of decision support systems in south africa. *Proceedings of the 32nd Hawaii International Conference on System Sciences*, IEEE, 1-10.
- BNQP -- Baldrige National Quality Program -- (2002). Criteria for Performance Excellence. *U.S. Department of Commerce – Technology Administration – National Institute of Standards and Technology*. Retrieved March 8, 2003 from the World Wide Web: <http://www.quality.nist.gov/bcpq.pdf.htm>.
- Bhargava, H., Suresh, S., & Herrick, C. (1999, March). Beyond spreadsheets: Tools for building decision support systems. *Computer*, 32(3), 31-39.
- Carr, A. (2000). Critical theory and the management of change in organizations. *Journal of Organizational Change Management*, 13(3), 1-11.
- DiBello, L. (1997). Measuring success in non-trivial ways: How can we know that a DSS implementation has really worked. *1997 International Conference on Systems, Man, and Cybernetics (IEEE)*, 2204-2209.
- Eisenhardt, K.M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.
- Glesne, C. (1999). *Becoming qualitative researchers*. New York: Addison Wesley Longman.
- Graetz, F. (2000). Strategic change leadership. *Management Decision*, 38(8), 550-564
- Guimaraes, T., Igbaria, M. & Lu, M. (1992, March/April). The determinants of DSS success: An integrated model. *Decision Sciences*, 409-429.

- Hotek, D., & White, M. (1999, Winter/Spring). An overview of performance technology. *The Journal of Technology Studies*, XXV(1), 43-50.
- Huning, A. (1999, Summer). Preferences and value assessments in cases of decision under risk. *Society for Philosophy & Technology*, 4(4), 15-20.
- Kivijärvi, H., & Zmud, R. (1993). DSS implementation activities, problem domain characteristics and DSS success. *European Journal of Information Systems*, 2(3), 159-168.
- Mallach, E. (1994). *Understanding decision support systems and expert systems*, Richard D. Irwin, Inc.
- MBNQA -- Malcolm Baldrige National Quality Award – Ten Years of Business Excellence for America, 1998, Retrieved March 8, 2003 from the World Wide Web: http://www.nist.gov/public_affairs/baldrdist.pdf
- McCutcheon, D.M., & Meredith, J.R (1993). Conducting case study research in operations management. *Journal of Operations Management*, (11), 239-256.
- McCune, J. (1999, July/August). Data warehouses. *Beyond Computing*, 8(6). Retrieved March 8, 2003 from the World Wide Web: <http://www.beyondcomputing.com/archive/1999/06-99/soft.html>.
- McMillan, J.H., & Schumacher, A. (2001). *Research in education*. New York: Addison, Wesley Longman
- Mentzas, G. (1996). Team coordination in decision support projects. *European Journal of Operational Research*, 89(1), 70-85.
- Palvia, S. & Chervany, N. (1995). An experimental investigation of factors influencing predicted success in DSS implementation. *Information & Management*, (29), 43-53.

- Roach, D., & Bednar, D. (1997, June). The theory of logical types: A tool for understanding levels and types of change in organizations. *Human Relations*, (50), 671-99.
- Romanelli, E., & Tushman, M. (1994). Organizational transformation as punctuated equilibrium: An empirical test. *Academy of Management Journal*, 37(5), 1141-1166.
- Rothwell, W., & Kazanas, H. (1998). *Mastering the instructional design process: A systematic approach* (2nd ed.), San Francisco: Jossey-Bass Publishers.
- Rouda, R., & Kusy, M. (1995). Development of human resources – Part 2: NEEDS ASSESSMENT the first step. *Technical Association of the Pulp and Paper Industry*, Retrieved March 8, 2003 from the World Wide Web:
http://alumni.caltech.edu/~rouda/T2_NA.html
- Sage, A. (1981, September). Behavioral and organizational considerations in the design of information systems and processes for planning and decision support. *IEEE Transactions on Systems, Man, and Cybernetics*, SMC-11(9), 640-677.
- Siegal, W., Church, A., Javitch, M., Waclawski, J., Burd, S., Bazigos, M., Yang, T., Anderson-Rudolph, K., & Burke, W. (1996). Understanding the management of change, an overview of managers' perspectives and assumptions in the 1990s. *Journal of Organizational Change Management*, 9(6), 1-20.
- Turban, E. (1996). Implementing decision support systems: A survey. *1996 IEEE International Conference on Systems, Man, and Cybernetics*, 4, 2540-2545.
- Underwood-Stephens, C., & Cobb A. (1999). A Habermasian approach to justice in organizational change synthesizing the technical and philosophical perspectives. *Journal of Organizational Change Management*, 12(1), 1-11.

- Weber, P., & Weber, J. (2001). Changes in employee perceptions during organizational change. *Leadership & Organizational Development Journal*, 22(6), 291-300.
- Wrenden, N. (1997, May). A desktop window on corporate data, *Beyond Computing*, 6(4), Retrieved March 8, 2003 from the World Wide Web:
<http://www.beyondcomputing.com/archive/1997/5-97/soft.html>.
- Yin, R.K. (1981). The case study crisis: Some answers. *Administrative Science Quarterly*, (26), 58-65.

CHAPTER 6. GENERAL CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

General Discussion

Dealing with change, whether it is significant or just ongoing daily activities, is a contemporary topic of interest. From the compilation of these manuscripts, there is an attempt to bring focus on not only the nature of significant change, but recommended considerations in formulating an organizational change strategy. The topic of significant change management is not only critical to an organization's success, but is a multi-facet dynamic phenomenon. Prerequisites for a successful change strategy are increasing and going through constant refinements. Since there is an interest to continuously identify best practices and use them, the search for the optimal method of introducing these changes is ongoing. The need and the urgency for the organization to confront change are captured by Moran & Brightman (2000):

The marketplace is changing overnight. Organizational alliances and structures are shifting rapidly. Everything in the organization is open to scrutiny. Basic operating assumptions are questioned. Traditions are challenged. The risk of failure is greater than ever before and the tension within the workforce is great and needs constant attention. (pg. 66)

The process of both managing and leading change in an organization is receiving attention because the outcome is vital. The importance of confronting this contemporary topic with a leadership philosophy is emphasized in chapter 5 (the last research manuscript) and becomes the underlying theme for the entire research project.

The intent of the individual papers as well as the entire manuscript is to present what has been found to date. It is understood that this presentation of findings and research is just one of many methods in trying to explore one aspect (external consultant) of how an organization can enhance organizational learning in support of the identified success factor (development curriculum) dealing with significant change. By first identifying the factor of a flexible development curriculum, the researcher looks at how the role of the consultant can influence the organization's change transformation efforts via this factor. The research on this single method (learning via consultant's assistance) is not to be construed as a signal that it is the most important. Instead it should serve to spark additional interest as well as point out other opportunities worthy of exploration. The use of qualitative as well as quantitative research methodologies also serves as a means to demonstrate how either research method individually or in combination can be used to derive valuable insight into this complex phenomenon. It is recognized that the quantitative or qualitative tools individually can provide noteworthy results, but the two together allowed the research for these manuscripts to probe deeper as well as serve as a means to validate some of the early findings supporting the importance of Critical Success Factors.

The hope is that the findings that are presented continue to have applicability for not only continued research (as outlined in the recommendations for future research), but for the practitioner as well. From the practitioner's stance, dealing with significant change needs to be proactively addressed by those organizations looking to maintain a competitive edge. What has been presented here is a framework upon which to spark interest to investigate ways for the organization to optimize its efforts, take into account known considerations, and seek out opportunities to adopt an overall change philosophy. With the ongoing interest and

supporting research for this topic, organizational leadership can look at ways to assist in this ongoing struggle. Because of the qualitative research methodologies (Grounded Theory and Theoretical Sampling, i.e. theory based on an analytical schema supported by data gathering driven by the concepts of that theory) utilized in chapter 3 and 4, the reader is cautioned against freely generalizing these findings. In the spirit of true qualitative research, the intent is to offer the findings for possible transferability where logic and reality can assist. Regardless of one's reaction to the topic and the findings, the urgency to deal with the organization's work environment and significant change remains a contemporary issue, and it is being experienced by all organizations big and small, private and public, world-wide.

Overall Conclusions

This document serves as a collection of manuscripts that can provide insight to what should be considered when dealing with significant organizational change. As change becomes more prominent as an influence to the organization's ability to maintain its competitive advantage, the outcome of each change initiative is dependent upon the ability to quickly progress through the transformation. Thus, in order to deal with the many aspects of a change transformation, it is important that the organization address as many of the success factors that research has identified as being critical and important.

With the threat of change looming on the horizon for most organizations, a change philosophy becomes a worthwhile endeavor. One such philosophy that has a proven track record is the Malcolm Baldrige National Quality Award, Criteria for Performance Excellence. It is this type of organizational roadmap, or any such philosophy for that matter, that may influence one of any adopted roadmaps that will help an organization not only

progress through the change transformation, but also address the identified factors necessary to obtain success.

Finally, the organization must go through Lewin's (1952) transformation phases (unfreezing→moving→refreezing). The choice is to go through the transformation independently or seek assistance. It is proposed that by partnering with the right consultant under the right conditions, which is one option, the organization can expect the journey through the phases of transformation to be quicker and the effect on productivity to be less severe.

Recommendation for Future Research

From the research carried out to date, only one aspect (the use of an external consultant) of the "Development Curriculum" was explored. Other areas that have also been identified are the ability of the organization to learn from within and any combination of the two. The particular focus for this manuscript (Development Curriculum) should not be interpreted to be any more or less important than any other success factor and their multiple aspects.

From the first manuscript, one of the suggested success factors that was identified, "Personal Gain," remains of interest. This topic would explore what motivates an individual and/or a group of people to rally to the change transformation initiative. Research can investigate multiple aspects of different staff, from early adopters, followers and eventually the hold-outs, and/or it can also explore the motivation of the change initiative crusader (champion) as described by Markam (2000) and Belasco (1990). Both authors suggest that defining the role of a change initiative champion and how that person deals with the organizational politics is perhaps one way to further explore the incentive to take action.

Exploration of the champion could provide insight into important interests of the employee's attitude which may be an influencing factor worth exploring. It is what Prichett & Rummler-Brache (1999) refer to as the new expectations of the employer. This is interpreted as wanting more than a person's brains and brawn, now expecting the employee to act like an owner on behalf of the organization. These areas, either separate or in combination, present opportunities for both social and psychological research interests.

As research continues to explore the topic of change management, other terminology or other success factors may be suggested. Two such areas are the role of participation as suggested by O'Brien (2002) and teamwork as suggested by Lencioni (2003). Where Lencioni (2003) poses questions about whether it is important to have a particular leadership trait or recognize its absence, O'Brien (2002) talks about organizational development and the effect of teamwork participation generating better outcomes. Both topics have the common theme of stressing the importance of people in the organization. They also point out that lacking a clear understanding or the definition of key terms (e.g., team vs. work unit, empowerment vs. self-directed, and participation vs. involvement, etc.) may be a major source of confusion. This can lead to misunderstandings and the premature proclamation of successfully addressing the critical factors for the change transformation.

Even when looking beyond the specific issues suggested so far, significant change and how to deal with it can be investigated from other approaches. Some of these, such as dealing with the resistance to change (French, 2001; Mabin, Forgeson, & Green, 2001), addressing corporate culture (Smith, 2003; Ogbor & Jones, 2001), as well as the major influence of leadership (Caldwell, 2003; Holt, Self, Thai, & Lo, 2003; Heifetz & Linsky, 2002; Bridges & Mitchell, 2000; Moran & Brightman, 2000) provide insight based on some

aspect of group dynamics. Of particular interest is how organizations can overcome both the expected and the unexpected barriers to the change transformation. For example, Mabin, Forgeson, & Green (2001) provide insight on re-thinking one's view based on the traditional interpretation of resistance which is usually seen as problematic. Instead they point out how the utility of resistance can actually be used to help the process and offer consideration of the theory of constraints (TOC) as a means to do a checks-and-balance. In the research done by French (2001), he points out the importance to identify negative resistance, embrace it, and recognize it as a healthy side-effect of change transformation. Corporate culture bubbles to the top for many organizations as a consideration for establishing a change management philosophy within the organization. Smith (2003) and Ogbor & Jones (2001) point out that this topic can stand alone as a major issue as well as generate significant influence on the organization's philosophy of change. Pritchett (2002) best summarizes the issue by saying, "Culture change is a bumpy, turbulent process. It rattles the organization." (pg. 9) In almost all cases, the influence that leadership has on change within the organization seems to be underestimated. Whether it be the emphasis on leadership coaching (Bridges & Mitchell, 2000) or the avoidance of cynicism and maintaining an open heart (Heifetz & Linsky, 2002), the specific details of leadership are an ongoing topic of discussion. That discussion can focus on either specific leader attributes as suggested by Kanter (1999) (passion, conviction, and confidence) or on an overall philosophy (Kotter, 1998; Kotter, 1996; Kotter, 1995). The one thing that is clear is that the role of a leader in dealing with change as an initiator is prominent and center stage.

Another area that is also recognized as not only a contemporary, but an influencing topic, is knowledge management (KM). It can be what Brooking & Motta (1996) refer to as

the intellectual capital (IC) of the organization. As organizations try to manage this intangible asset of providing the right information to the right people at the right time (Kotnour, Orr, Spaulding, & Guidi, 1997), Brooking & Motta (1996) recommend capturing the essence of the organization's IC by developing a repository of this valuable asset. This asset goes beyond just the human-centered assets to also include other intangibles such as intellectual property, infrastructure, information technology capabilities, and marketing assets as well. Kaplan & Norton (2004) see these assets as a major source of strength in maintaining an organization's competitive advantage. They also remind us of the importance to measure what the organization sees as having value, whether that be tangible or intangible assets. How an organization utilizes its KM for competitive advantage is discussed by Bloodgood & Salisbury (2001) where they outline strategies and explore the interactions of information technology (IT) with KM. The underlying premise is that an organization needs to evaluate what it has for resources beyond just the tangible assets, and determine what it needs to reach its strategic goals and be successful. Both the development curriculum and personal gain (success factors) identified by the research in this manuscript are directly influenced when exploring KM.

In addition to these aspects, another whole approach has surfaced in management literature; it is the role of emotions within the organization. From that viewpoint there is potential to investigate not only the specific personal emotions of individuals (Lundberg & Young, 2001), but also the role of emotional intelligence (Wolff, Pescosolido & Druskat, 2002; Goleman, 1998). Emotional intelligence has specific interest because increased levels help to reduce some of the undesired aspects of work life that may inhibit a positive climate (e.g., stress, low morale, poor mental health, etc.) (Bardzil & Slaski, 2003). The

identification of these areas serves as a means to suggest an even broader approach to an already broad and dynamic issue.

As one contemplates the multiple issues that research can investigate regarding significant change transformation, it may be beneficial to remember that the individual research methodologies as well as any combination can offer additional opportunities. The efforts of Adler, Goldoftas, & Levine (1999), with their research using the technique of a case study, helped provide clarity between organizational flexibility versus efficiency. Gohdes, Lambrecht, & Redmann (2000) employ the critical incident technique as a qualitative approach to probe employee skills in the social context where they occur. Wicklein (1993) introduces the use of the modified-Delphi technique to explore strategic planning, and Krumm (2004) presented the possibilities in using scenario planning which has the potential to flesh out multiple strategies. Skok & Legge (2002) utilize an interpretive study technique to “capture the corresponding richness and complexity” (pg. 74) of implementing enterprise resource planning (ERP) systems. Stemming from their research is the confirmation about the importance of effective management and utilization of consultants in assisting the organization in areas of deficit. Thus, the application of different research methodologies may provide additional potential for the uncovering new and exciting information about change transformation. New insights become possible as future researchers broaden their use of both quantitative and qualitative contemporary methodologies.

Ultimately significant change can continue to be explored through proposed models, updated models or altogether new models as suggested by Holt, Self, Thai, & Lo (2003) and Armenakis, Harris & Field (1999). It can involve complexity theory, a challenge to the

linearity flow of stages currently describing change transformation, as suggested by Styhre (2002), looking at radical change as reported by McAdam (2003), or looking at the direct effects of implementing other technology systems beyond the Decision Support Systems as suggested by Nah, Lau, & Kuang (2001). These as well as other internal and external factors can continue to drive change and as they do, they must be confronted as a change initiative by the organization. As Bridges & Mitchell (2000) put it, "... anyone who has looked at the situation [change initiative] with a reasonably open mind can see that the change isn't optional. It is essential." (pg. 30)

So as one can tell, the approaches to explore the topic of significant change are as numerous as the methods. Regardless of which avenue is chosen, as highlighted in the last manuscript of the series contained in this dissertation, it is important for an organization to have a change strategy. This strategy can be one that looks at the Malcolm Baldrige National Quality Award Criteria (Chrusciel & Field, 2003; Flynn & Saladin, 2001) or several others. These can include, but are not limited to the Academic Quality Improvement Project (AQIP), International Organization for Standardization (ISO) 9000, ISO 14000, Kaizen, Shingo Prize and Hoshin Management just to name a few. The expectation is that organizations will be proactive in dealing with change and rise to the challenge. As Pritchett & Pound (2004) state, "During times of transition and change, it's not 'business as usual.'" (pg. 1)

Organizations need to be prepared to adjust their status quo and be adaptive to change, because the seriousness of the matter is best stated by Kotter (1998) saying, "No organization today, large or small, local or global – is immune to change." (pg. 27)

References

- Adler, P., Goldoftas, B., & Levine, D. (1999, Jan.-Feb.). Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. *Organization Science*, 10(1), 43-68.
- Armenakis, A., Harris, S., & Field, H. (1999). Making change permanent: A model for institutionalising change interventions. *Research in Organizational Change and Development*, 12, 97-128.
- Bardzil, P., & Slaski, M. (2003). Emotional intelligence: Fundamental competencies for enhanced service provision. *Managing Service Quality*, 13(3), 97-104.
- Belasco, J. (1990). Enlist champion change agents. *Executive Excellence*, 7(8), 9.
- Bloodgood, J., & Salisbury, W. (2001). Understanding the influence of organizational change strategies on information technology and knowledge management strategies. *Decision Support Systems*, 31, 55-69.
- Bridges, W. & Mitchell, S. (2000, Spring). Leading transition: A new model for change. *Leader to Leader*, 16, 30-36.
- Brooking, A., & Motta, E. (1996, January 24-26). A taxonomy of intellectual capital and a methodology for auditing it. 17th Annual National Conference, McMaster University, Hamilton, Ontario, Canada.
- Caldwell, R. (2003). Change leaders and change managers: Different or complementary. *Leadership & Organization Development Journal*, 24(5), 285-293.
- Chrusciel, D., & Field, D. (2003). From critical success factors into criteria for performance excellence – An organizational change strategy. *Journal of Industrial Technology*, 19(4), 49-59.

- Flynn, B. & Saladin, B. (2001). Further evidence on the validity of the theoretical models underlying the Baldrige criteria. *Journal of Operations Management*, 19, 617-652.
- French, R. (2001). "Negative capability": Managing the confusing uncertainties of change. *Journal of Organizational Change Management*, 14(5), 480-492.
- Gohdes, W., Lambrecht, J., & Redmann, D. (2000). The critical-incident technique in job behavior research. *The Journal of Vocational Education Research*, 25(1), 63-89.
- Goleman, D. (1998). *Working with emotional intelligence*. New York: Bantam Books.
- Heifetz, R., & Linsky, M. (2002, Fall). Leading with an open heart. *Leader to Leader*, 26, 28-33.
- Holt, D., Self, D., Thai, A., & Lo, S. (2003). Facilitating organizational change: A test of leadership strategies. *Leadership & Organization Development Journal*, 24(5), 262-272.
- Kanter, R. (1999, Summer). The enduring skills of change leaders. *Leader to Leader*, 13, 15-22.
- Kaplan, R., & Norton, D. (2004). Measuring the strategic readiness of intangible assets. *Harvard Business Review*, 82(2), 52-63.
- Kotnour, T., Orr, C. Spaulding, J., & Guidi, J. (1997). Determining the benefit of knowledge management activities. *1997 International Conference on Systems, Man, and Cybernetics (IEEE)*, 1, 94-99.
- Kotter, J. (1995, March/April). Leading change: Why transformational efforts fail. *Harvard Business Review*, 73(2), 59-67.
- Kotter, J. (1996). *Leading change*. Boston, MA: Harvard Business School Press.
- Kotter, J. (1998). Winning at change. *Leader to Leader*, 10, 27-33.
- Krumm, M. (2004, April). Scenario planning. Presentation at the monthly meeting of the

- Quality Ames Forum, Ames, IA.
- Lencioni, P. (2003, Summer). The trouble with teamwork. *Leader to Leader*, 29, 35-40.
- Lewin, K. (1952) Group decision and social change. *Readings in Social Psychology*. New York: Henry Holt and Company, 459-473.
- Lundberg, C., & Young, C. (2001). A note on emotions and consultancy. *Journal of Organizational Change Management*, 14(6), 530-538.
- Mabin, V., Forgeson, S., & Green, L. (2001). Harnessing resistance: Using the theory of constraints to assist change management. *Journal of European Industrial Training*, 25(2/3/4), 168-191.
- Markam, S. (2000). Corporate championing and antagonism as forms of political behavior: An R&D perspective. *Organization Science*, 11(4), 429-447.
- McAdam, R. (2003). Radical change: A conceptual model for research agendas. *Leadership & Organization Development Journal*, 24(4), 226-235.
- Moran, J., & Brightman, B. (2000). Leading organizational change. *Journal of Workplace Learning*, 12(2), 66-77.
- Nah, F., Lau, J., & Kuang, J. (2001). Critical factors for successful implementation of enterprise systems. *Business Process Management Journal*, 7(3), 285-296.
- O'Brien, G. (2002). Participation as the key to successful change – A public sector case study. *Leadership & Organization Development Journal*, 23(8), 442-455.
- Ogbor, J., & Jones, J. (2001). Critical theory and the hegemony of corporate culture. *Journal of Organizational Change Management*, 14(6), 590-608.
- Pritchett, P., & Pound, R. (2004). *Business as unusual*. Dallas, TX: Pritchett.
- Pritchett, P. (2002). *Shaping corporate culture*. Plano, TX: Pritchett, LLC.

- Pritchett & Rummler-Brache. (1999). *New work habits for a radically changing world*.
Plano, TX: Pritchett, LLC.
- Skok, W., & Legge, M. (2002). Evaluating enterprise resource planning (ERP) systems using an interpretive approach. *Knowledge and Process Management*, 9(2), 72-82.
- Smith, M. (2003). Changing an organisation's culture: Correlates of success and failure. *Leadership & Organization Development Journal*, 24(5), 249-261.
- Styhre, A. (2002). Non-linear change in organizations: Organization change management informed by complexity theory. *Leadership & Organization Development Journal*, 23(6), 343-351.
- Wicklein, R. (1993). Identifying critical issues and problems in technology education using a modified-delphi technique. *Journal of Technology Education*, 5(1). Retrieved July 11, 2002, from <http://scholar.lib.vt.edu/ejournals/JTE/v5n1/wicklein.jte-v5n1.html>
- Wolff, S., Pescosolido, A., & Druskat, V. (2002). Emotional intelligence as the basis of leadership emergence in self-managing teams. *The Leadership Quarterly*, 13, 505-522.